43753 ☑ 200 PG - notarized #7724

Columbia County New Building Permit Application

For Office Use Only Application # 1909-56 Date Received 9/18/19 By MG Permit # 38723

Zoning Official LW Date 9-18-19 Flood Zone X Land Use Ag Zoning A-3

FEMA Map # N/A Elevation N/A MFE 1' Above River N/A Plans Examiner T.C. Date 9-26-19

Comments MFE 1' above road Accessory use to S.E. 0594 F. 30' Sides 25' Rear 25'

☐ NOC ✓ EH ✓ Deed or PA ✓ Site Plan ☐ State Road Info ✓ Well letter (existing T.C.) ✓ 911 Sheet ☐ Parent Parcel # ______

☐ Dev Permit # ______ ☐ In Floodway ☐ Letter of Auth. from Contractor ☐ F W Comp. letter

☐ Owner Builder Disclosure Statement ☐ Land Owner Affidavit ☐ Ellisville Water ~~App~~ Fee Paid ~~Sub VF~~ Form

Septic Permit No. 19-0566 OR City Water ☐ Fax ______

Applicant (Who will sign/pickup the permit) Jeff Gutapfel Phone 352-426-2558

Address 40 NW 1st St Williston FL 32696

Owners Name Patrick R. Gilmore, Jessica Camp + RJ Industries LLC Phone 904-476-6595

911 Address 10089 SW US Hwy 27 Fort White, FL 32038

Contractors Name Jeff Gutapfel Phone 352-426-2558

Address 40 NW 1st St, Williston FL 32696

Contractor Email jeff@goodapple.net ***Include to get updates on this job.

Fee Simple Owner Name & Address ______

Bonding Co. Name & Address ______

Architect/Engineer Name & Address WM Design + Associates, Inc 426 SW Commerce Dr #130 Lake City FL 32035

Mortgage Lenders Name & Address ______

Circle the correct power company ☐ FL Power & Light ☑ Clay Elec. ☐ Suwannee Valley Elec. ☐ Duke Energy

Property ID Number 19-6S-16-03885-000 Estimated Construction Cost 370,000

Subdivision Name ______ Lot ____ Block ____ Unit ____ Phase ____

Driving Directions from a Major Road 47 South, Right on 27, Right on Cochran St to Address

Construction of log structure X Commercial OR ____ Residential

Proposed Use/Occupancy Club House Number of Existing Dwellings on Property Ø

Is the Building Fire Sprinkled? NO If Yes, blueprints included ____ Or Explain ______

Circle Proposed ☐ Culvert Permit or ☐ Culvert Waiver or ☐ D.O.T. Permit or ☒ Have an Existing Drive

Actual Distance of Structure from Property Lines - Front 110 Side 115 Side 220 Rear 117

Number of Stories 1 Heated Floor Area 2420 Total Floor Area 3700 Acreage 8

Zoning Applications applied for (Site & Development Plan, Special Exception, etc.) ______

Columbia County Building Permit Application

CODE: Florida Building Code 2014 and the 2011 National Electrical Code.

Application is hereby made to obtain a permit to do work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work be performed to meet the standards of all laws regulating construction in this jurisdiction.

TIME LIMITATIONS OF APPLICATION : An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless pursued in good faith or a permit has been issued.

TIME LIMITATIONS OF PERMITS: Every permit issued shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time work is commenced. A valid permit receives an approved inspection every 180 days. Work shall be considered not suspended, abandoned or invalid when the permit has received an approved inspection within 180 days of the previous approved inspection.

FLORIDA'S CONSTRUCTION LIEN LAW: Protect Yourself and Your Investment: According to Florida Law, those who work on your property or provide materials, and are not paid-in-full, have a right to enforce their claim for payment against your property. This claim is known as a construction lien. If your contractor fails to pay subcontractors or material suppliers or neglects to make other legally required payments, the people who are owed money may look to your property for payment, even if you have paid your contractor in full. This means if a lien is filed against your property, it could be sold against your will to pay for labor, materials or other services which your contractor may have failed to pay.

NOTICE OF RESPONSIBILITY TO CONTRACTOR AND AGENT: *YOU ARE HEREBY NOTIFIED* as the recipient of a building permit from Columbia County, Florida, you will be held responsible to the County for any damage to sidewalks and/or road curbs and gutters, concrete features and structures, together with damage to drainage facilities, removal of sod, major changes to lot grades that result in ponding of water, or other damage to roadway and other public infrastructure facilities caused by you or your contractor, subcontractors, agents or representatives in the construction and/or improvement of the building and lot for which this permit is issued. No certificate of occupancy will be issued until all corrective work to these public infrastructures and facilities has been corrected.

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

OWNERS CERTIFICATION: I CERTIFY THAT ALL THE FOREGOING INFORMATION IS ACCURATE AND THAT ALL WORK WILL BE DONE IN COMPLIANCE WITH ALL APPLICABLE LAWS REGULATING CONSTRUCTION AND ZONING.

NOTICE TO OWNER: There are some properties that may have deed restrictions recorded upon them. These restrictions may limit or prohibit the work applied for in your building permit. You must verify if your property is encumbered by any restrictions or face possible litigation and or fines.

PATRICK RYAN GILMORE
Jessica Camp
Print Owners Name

Jessica Camp
Owners Signature

****Property owners must sign here before any permit will be issued.**

****If this is an Owner Builder Permit Application then, ONLY the owner can sign the building permit when it is issued.**

CONTRACTORS AFFIDAVIT: By my signature I understand and agree that I have informed and provided this written statement to the owner of all the above written responsibilities in Columbia County for obtaining this Building Permit including all application and permit time limitations.

Contractor's Signature

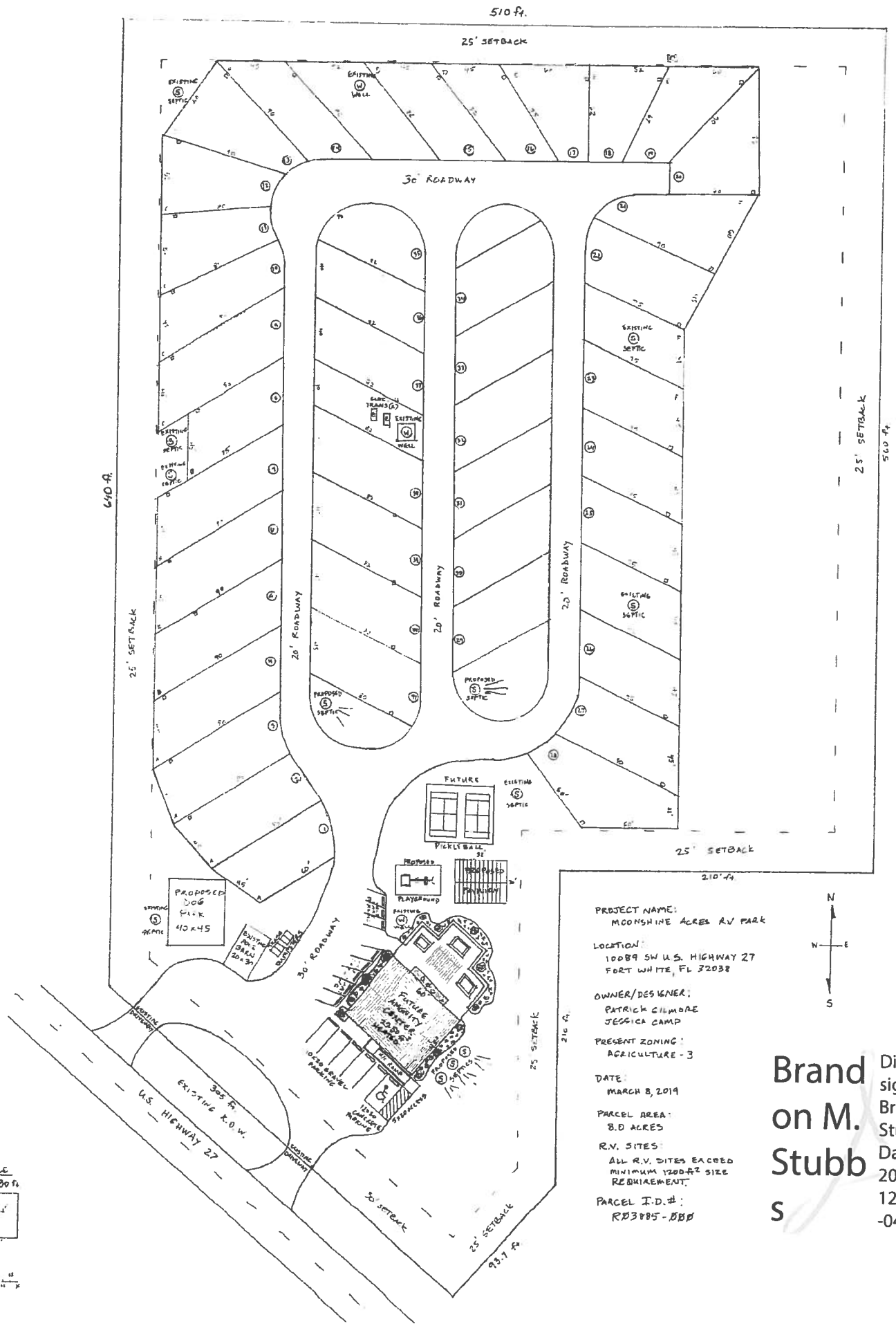
Contractor's License Number CBC060248
Columbia County Competency Card Number 2036 ✓

Affirmed under penalty of perjury to by the Contractor and subscribed before me this 9th **day of** October **20** 19.

Personally Known ✓ **or Produced Identification** _____

Laurie Hodson
State of Florida Notary Signature (For the Contractor)

SEAL:



PROJECT NAME:
MOONSHINE ACRES R.V PARK

LOCATION:
10089 SW U.S. HIGHWAY 27
FORT WHITE, FL 32038

OWNER/DESIGNER:
PATRICK GILMORE
JESSICA CAMP

PRESENT ZONING:
AGRICULTURE - 3

DATE:
MARCH 8, 2019

PARCEL AREA:
8.0 ACRES

R.V. SITES:
ALL R.V. SITES EXCEED MINIMUM 1200-ft² SIZE REQUIREMENT

PARCEL I.D.#:
R03885-000

Brandon M. Stubbs

Digitally signed by Brandon M. Stubbs
Date: 2019.05.08 12:06:34 -04'00'

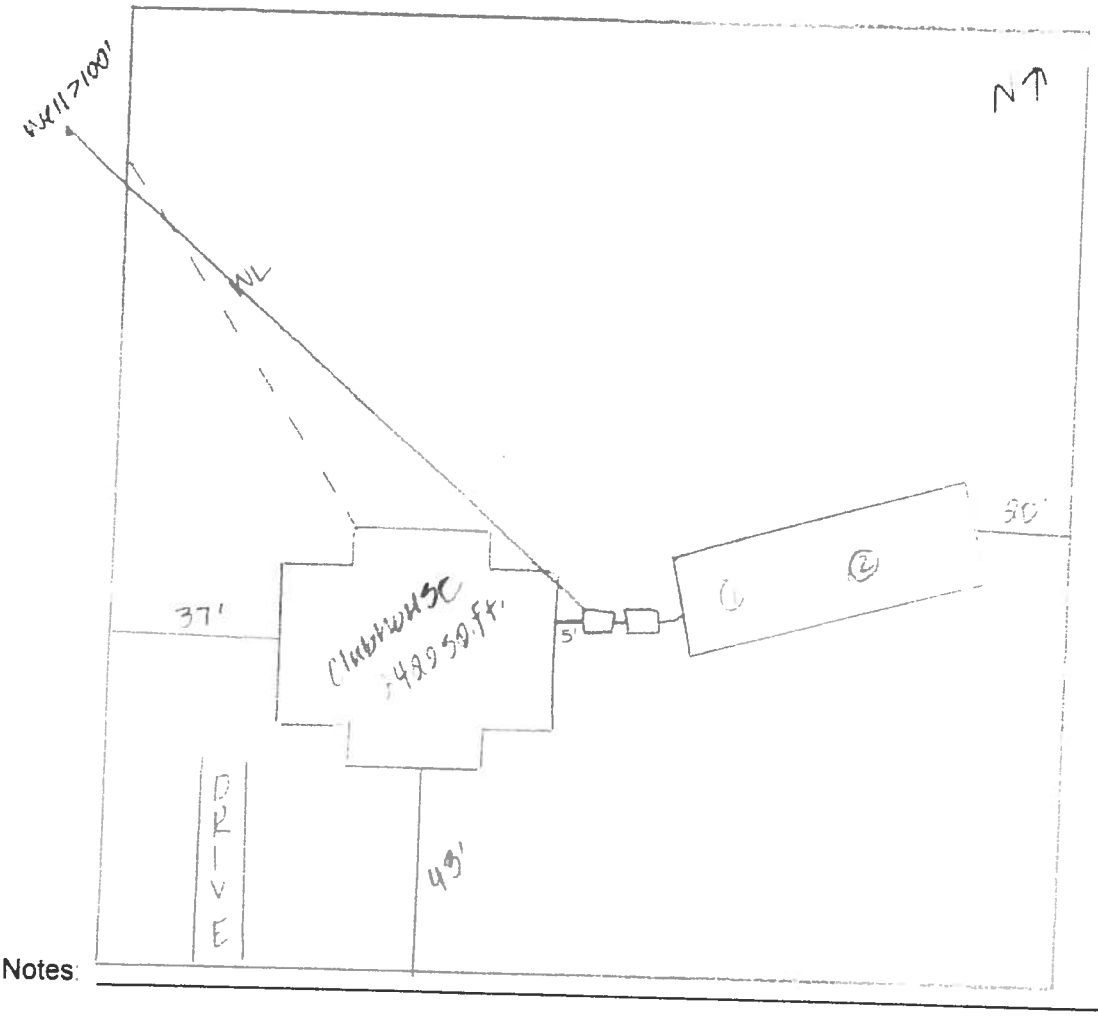
STATE OF FLORIDA
DEPARTMENT OF HEALTH
APPLICATION FOR ONSITE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permit Application Number 19-05206

P. Gilmore

PART II - SITEPLAN

Scale: 1 inch = 40 feet.



Notes:

Site Plan submitted by:

Plan Approved X Not Approved

By ESH

MASTER CONTRACTOR

Date 8/5/19

Columbia CHD County Health Department

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT

19-0566

STATE OF FLORIDA
DEPARTMENT OF HEALTH
ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM
APPLICATION FOR CONSTRUCTION PERMIT

PERMIT NO. 19-0566
DATE PAID: 7/24/19
FEE PAID: 310.00
RECEIPT #: 4425804

APPLICATION FOR:
[X] New System [ ] Existing System [ ] Holding Tank [ ] Innovative
[ ] Repair [ ] Abandonment [ ] Temporary [ ] _____

APPLICANT: Patrick Gilmore

AGENT: ROCKY FORD, A & B CONSTRUCTION TELEPHONE: 386-497-2311

MAILING ADDRESS: 546 SW Dortch Street, FT. WHITE, FL, 32038

TO BE COMPLETED BY APPLICANT OR APPLICANT'S AUTHORIZED AGENT. SYSTEMS MUST BE CONSTRUCTED BY A PERSON LICENSED PURSUANT TO 489.105(3)(m) OR 489.552, FLORIDA STATUTES. IT IS THE APPLICANT'S RESPONSIBILITY TO PROVIDE DOCUMENTATION OF THE DATE THE LOT WAS CREATED OR PLATTED (MM/DD/YY) IF REQUESTING CONSIDERATION OF STATUTORY GRANDFATHER PROVISIONS.

PROPERTY INFORMATION

LOT: NA BLOCK: NA SUB: NA Moonshine Inn RV PLATTED: _____

PROPERTY ID #: 19-6S-16-03885-000 ZONING: _____ I/M OR EQUIVALENT: [Y / (N)]

PROPERTY SIZE: 8 ACRES WATER SUPPLY: [X] PRIVATE PUBLIC [ ]<=2000GPD [ ]>2000GPD

IS SEWER AVAILABLE AS PER 381.0065, FS? [Y / (N)] DISTANCE TO SEWER: NA FT

PROPERTY ADDRESS: 130 Cochran St Fort White

DIRECTIONS TO PROPERTY: 47 South Right on 27 Right on Cochran St to address

BUILDING INFORMATION [ ] RESIDENTIAL [X] COMMERCIAL

Unit No	Type of Establishment	No. of Bedrooms	Building Area Sqft	Commercial/Institutional System Design Table 1, Chapter 64E-6, FAC
1	Clubhouse	0	2420	Bath House 64 people
2				
3				

[ ] Floor/Equipment Drains [ ] Other (Specify) _____

SIGNATURE: [signature] DATE: 7/23/2019

DH 4015, 08/09 (Obsoletes previous editions which may not be used)
Incorporated 64E-6.001, FAC

SUBCONTRACTOR VERIFICATION

APPLICATION/PERMIT # 1909-56 JOB NAME Gutapfel / Gilmore

THIS FORM MUST BE SUBMITTED BEFORE A PERMIT WILL BE ISSUED

Columbia County issues combination permits. One permit will cover all trades doing work at the permitted site. It is REQUIRED that we have records of the subcontractors who actually did the trade specific work under the general contractors permit.

***NOTE:** It shall be the responsibility of the general contractor to make sure that all of the subcontractors are licensed with the Columbia County Building Department.*
Use website to confirm licenses: http://www.columbiacountyfla.com/PermitSearch/ContractorSearch.aspx

***NOTE:** If this should change prior to completion of the project, it is your responsibility to have a corrected form submitted to our office, before that work has begun.*

Violations will result in stop work orders and/or fines.

ELECTRICAL ☑	Print Name Dale Mike Nadboralski	Signature	
9/4/19	Company Name Mike & Robbie Electric		
CCC# 2040	License #: EC13008183	Phone #: 352-250-8800	
MECHANICAL/ A/C ☑	Print Name Robert Cowart	Signature	
	Company Name Cowart Air Conditioning		
CCC# 2070	License # CAC056733	Phone #: 904-669-8608	
PLUMBING/ GAS ☑	Print Name George Degler	Signature	
9/3/19	Company Name A Proud Plumber		
CCC# 1018	License #: CFC1427133	Phone #: 386-438-9635	
ROOFING ☑	Print Name Gary Russell	Signature	
	Company Name Russell Roffing Inc		
CCC# 2034	License #: CCC1327203	Phone # 386-871-7239	
SHEET METAL ☐	Print Name	Signature	
	Company Name:		
CCC#	License #:	Phone #	
FIRE SYSTEM/ SPRINKLER ☐	Print Name	Signature	
	Company Name		
CCC#	License#:	Phone #:	
SOLAR ☐	Print Name	Signature	
	Company Name:		
CCC#	License #:	Phone #:	
STATE SPECIALTY ☐	Print Name	Signature	
	Company Name		
CCC#	License #:	Phone #:	

Electronic Articles of Organization
For
Florida Limited Liability Company

L19000038217
FILED 8:00 AM
February 06, 2019
Sec. Of State
tjschroeder

Article I

The name of the Limited Liability Company is:

RJ INDUSTRIES LLC

Article II

The street address of the principal office of the Limited Liability Company is:

14991 NE JACKSONVILLE RD
CITRA, FL. US 32113

The mailing address of the Limited Liability Company is:

14991 NE JACKSONVILLE RD
CITRA, FL. US 32113

Article III

The name and Florida street address of the registered agent is:

CABRERA TAX ACCOUNTANTS LLC
8810 SW HWY 200
SUITE 103
OCALA, FL. 34481

Having been named as registered agent and to accept service of process for the above stated limited liability company at the place designated in this certificate, I hereby accept the appointment as registered agent and agree to act in this capacity. I further agree to comply with the provisions of all statutes relating to the proper and complete performance of my duties, and I am familiar with and accept the obligations of my position as registered agent.

Registered Agent Signature: STEVEN CABRERA

L19000038217
FILED 8:00 AM
February 06, 2019
Sec. Of State
tjschroeder

Article IV

The name and address of person(s) authorized to manage LLC:

Title: MGR
PATRICK R GILMORE
14991 NE JACKSONVILLE RD
CITRA, FL. 32113 US

Title: MGR
JESSICA CAMP
14991 NE JACKSONVILLE RD
CITRA, FL. 32113 US

Article V

The effective date for this Limited Liability Company shall be:

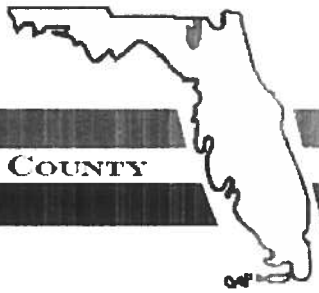
02/01/2019

Signature of member or an authorized representative

Electronic Signature: STEVEN CABRERA

I am the member or authorized representative submitting these Articles of Organization and affirm that the facts stated herein are true. I am aware that false information submitted in a document to the Department of State constitutes a third degree felony as provided for in s.817.155, F.S. I understand the requirement to file an annual report between January 1st and May 1st in the calendar year following formation of the LLC and every year thereafter to maintain "active" status.

District No. 1 - Ronald Williams
District No. 2 - Rocky Ford
District No. 3 - Bucky Nash
District No. 4 - Toby Witt
District No. 5 - Tim Murphy



BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

Address Assignment and Maintenance Document

To maintain the county wide Addressing Policy you must make application for a 9-1-1 Address at the time you apply for a building permit. The established standards for addressing and posting numbers to all principal buildings, dwellings, businesses and industries are contained in Columbia County Ordinance 2001-9. The addressing system is to enable Emergency Services Agencies to locate you in an emergency, and to assist the United States Postal Service and the public in the timely and efficient provision of services to residents and businesses of Columbia County

Date/Time Issued:	**10/10/2019 6:32:38 PM**
Address:	**10089 SW US HIGHWAY 27**
City:	**FORT WHITE**
State:	**FL**
Zip Code	**32038**
Parcel ID	**03885-000**

REMARKS: Address Verification.

NOTICE: THIS ADDRESS WAS ISSUED BASED ON LOCATION AND ACCESS INFORMATION RECEIVED FROM THE REQUESTER. SHOULD, AT A LATER DATE, THE LOCATION AND/OR ACCESS INFORMATION BE FOUND TO BE IN ERROR OR CHANGED, THIS ADDRESS IS SUBJECT TO CHANGE.

Address Issued By: **Signed:/ Matt Crews**

Columbia County GIS/911 Addressing Coordinator

COLUMBIA COUNTY
911 ADDRESSING / GIS DEPARTMENT
263 NW Lake City Ave., Lake City, FL 32055 Telephone: (386) 758-1125
Email: gis@columbiacountyfla.com

District No. 1 - Ronald Williams
District No. 2 - Rocky Ford
District No. 3 - Bucky Nash
District No. 4 - Toby Witt
District No. 5 - Tim Murphy

April 26, 2019

VIA ELECTRONIC MAIL

Patrick Gilmore & Jessica Camp
RJ Industries, LLC
14991 NE Jacksonville Rd
Citra, Fl 32113

Re: Special Exception 0594 – Moonshine Acres
Board of Adjustment Determination Letter

Dear Mr. Gilmore,

At the April 25, 2019 Board of Adjustment ("Board") hearing, the Board approved your application for a Special Exception for a Recreational Vehicle Campground use as permitted in Section 4.5.7(8) of the County's Land Development Regulations ("LDRs") in accordance with Section 12.2 of the County's LDRs. Per Section 12.1.1 of the County's LDRs, there is a thirty (30) day appeal period for all Special Exceptions. If no appeal is filed within thirty (30) days, the decision of the Board shall become final. No permits shall be issued until the thirty (30) day appeal period has expired.

Attached for your records is a copy of Resolution BA SE 0594.

If you have any questions, please do not hesitate to contact me at bstubbs@columbiacountyfla.com or (386) 754-7119.

Sincerely,

Brandon M. Stubbs
County Planner/LDR Admin.

Columbia County Property Appraiser

Jeff Hampton

2019 Preliminary Certified Values

updated: 8/14/2019

Parcel: << **19-6S-16-03885-000** >>

Aerial Viewer Pictometery Google Maps

Owner & Property Info

Owner	**RJ INDUSTRIES LLC** 14991 NORTHEAST JACKSOVILLE RD CITRA, FL 32113		
Site	130 COCHRAN ST, FORT WHITE		
Description*	COMM INTER OF N R/W US-27 & E LINE OF SE1/4 OF SE1/4, RUN N 532.89 FT FOR POB, RUN W 210 FT, S 210 FT, SW 93.7 FT TO N R/W OF US-47, NW ALONG R/W APPROX 304.93 FT, N APPROX 640 FT, E 510 FT, S 560 FT TO POB, WD 1202-369, 1216-378, WD 1229-1907, WD 1381-257 ...more>>>		
Area	8 AC	S/T/R	19-6S-16
Use Code**	MISC RES (000700)	Tax District	3

*The Description above is not to be used as the Legal Description for this parcel in any legal transaction.
**The Use Code is a FL Dept. of Revenue (DOR) code and is not maintained by the Property Appraiser's office. Please contact your city or county Planning & Zoning office for specific zoning information.

Property & Assessment Values

2018 Certified Values		2019 Preliminary Certified	
Mkt Land (2)	$39,693	Mkt Land (2)	$42,193
Ag Land (0)	$0	Ag Land (0)	$0
Building (0)	$0	Building (0)	$0
XFOB (5)	$5,600	XFOB (5)	$5,600
Just	$45,293	Just	$47,793
Class	$0	Class	$0
Appraised	$45,293	Appraised	$47,793
SOH Cap [?]	$0	SOH Cap [?]	$0
Assessed	$45,293	Assessed	$47,793
Exempt	$0	Exempt	$0
Total Taxable	county:$40,977 city:$40,977 other:$40,977 school:$45,293	Total Taxable	county:$45,075 city:$45,075 other:$45,075 school:$47,793

Sales History

Sale Date	Sale Price	Book/Page	Deed	V/I	Quality (Codes)	RCode
6/12/2019	$80,800	1388/2064	QC	V	U	11
3/8/2019	$160,000	1381/2573	WD	V	Q	01
2/6/2012	$17,500	1229/1907	WD	I	Q	03
6/9/2011	$10,000	1216/0378	WD	I	Q	01
6/9/2011	$10,000	1216/0378	WD	I	Q	01
5/25/2011	$100	1215/0476	PR	I	U	11
5/25/2011	$100	1215/0476	PR	I	U	11
4/21/2011	$100	1222/0469	WD	I	U	12
9/14/2010	$25,000	1202/0369	WD	V	Q	01
2/25/2010	$0	1189/1999	PB	V	U	11
		1116/1215				

COLUMBIA COUNTY BUILDING DEPARTMENT
RESIDENTIAL CHECK LIST

MINIMUM PLAN REQUIREMENTS: FLORIDA BUILDING CODE RESIDENTIAL 2017 EFFECTIVE 1 JANUARY 2018 AND THE NATIONAL ELECTRICAL 2014 EFFECTIVE 1 JANUARY 2018

ALL REQUIREMENTS ARE SUBJECT TO CHANGE

ALL BUILDING PLANS MUST INDICATE COMPLIANCE WITH THE CURRENT FLORIDA BUILDING CODES RESIDENTIAL AND THE NATIONAL ELECTRICAL CODE. ALL PLANS OR DRAWINGS SHALL PROVIDE CALCULATIONS AND DETAILS THAT HAVE THE SEAL AND SIGNATURE OF A CERTIFIED ARCHITECT OR ENGINEER REGISTERED IN THE STATE OF FLORIDA, OR ALTERNATE METHODOLOGIES, APPROVED BY THE STATE OF FLORIDA BUILDING COMMISSION FOR ONE-AND-TWO FAMILY DWELLINGS, FBC 1609.3.1 THRU 1609.3.3.

FOR DESIGN PURPOSES THE FOLLOWING BASIC WIND SPEEDS ARE PER FLORIDA BUILDING CODE FIGURE 1609-A THROUGH 1609-C ULTIMATE DESIGN WIND SPEEDS FOR RISK CATEGORY AND BUILDINGS AND OTHER STRUCTURES
Revised 7/1/18

Website: http://www.columbiacountyfla.com/BuildingandZoning.asp

GENERAL REQUIREMENTS:
APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL

Items to Include- Each Box shall be Circled as Applicable
Select From Drop down

1	Two (2) complete sets of plans containing the following:		✓		
2	All drawings must be clear, concise, drawn to scale, details that are not used shall be marked void		✓		
3	**Condition space (Sq. Ft.)**	**Total (Sq. Ft.) under roof**	Yes	No	NA

Designers name and signature shall be on all documents and a licensed architect or engineer, signature and official embossed seal shall be affixed to the plans and documents as per the FLORIDA BUILDING CODES RESIDENTIAL 107.1.

Site Plan information including:

4	Dimensions of lot or parcel of land	✓		
5	Dimensions of all building set backs	✓		
6	Location of all other structures (include square footage of structures) on parcel, existing or proposed well and septic tank and all utility easements.	✓		
7	Provide a full legal description of property.	✓		

Wind-load Engineering Summary, calculations and any details are required.

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable		
8	**Plans or specifications must show compliance with FBCR Chapter 3**	Yes	No	NA
		Select From Drop down		
9	Basic wind speed (3-second gust), miles per hour	- ✓		
10	(Wind exposure – if more than one wind exposure is used, the wind exposure and applicable wind direction shall be indicated)	- ✓		
11	Wind importance factor and nature of occupancy	- ✓		
12	The applicable internal pressure coefficient, Components and Cladding	- ✓		
13	The design wind pressure in terms of psf (kN/m²), to be used for the design of exterior component, cladding materials not specifally designed by the registered design professional.	- ✓		

Elevations Drawing including:

14	All side views of the structure	- ✓		
15	Roof pitch	- ✓		
16	Overhang dimensions and detail with attic ventilation	- ✓		
17	Location, size and height above roof of chimneys	- ✓		
18	Location and size of skylights with Florida Product Approval	- ✓		
19	Number of stories	- ✓		
20	Building height from the established grade to the roofs highest peak	- ✓		

Floor Plan Including:

21	Dimensioned area plan showing rooms, attached garage, breeze ways, covered porches, deck, balconies	- ✓		
22	Raised floor surfaces located more than 30 inches above the floor or grade	- ✓		
23	All exterior and interior shear walls indicated	- ✓		
24	Shear wall opening shown (Windows, Doors and Garage doors)	- ✓		
25	Show compliance with Section FBCR 310 Emergency escape and rescue opening shown in each bedroom (net clear opening shown) and Show compliance with Section FBC 1405.13.2 where the opening of an operable window is located more than 72 inches above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches shall be fixed or have openings through which a 4-inch-diameter sphere cannot pass.	- ✓		
26	Safety glazing of glass where needed	- ✓		
27	Fireplaces types (gas appliance) (vented or non-vented) or wood burning with Hearth (see chapter 10 and chapter 24 of FBCR)	- ✓		
28	Show stairs with dimensions (width, tread and riser and total run) details of guardrails, Handrails	- ✓		✓
29	Identify accessibility of bathroom (see FBCR SECTION 320)	- ✓		

All materials placed within opening or onto/into exterior walls, soffits or roofs shall have Florida product approval number and mfg. installation information submitted with the plans
(see Florida product approval form)

GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

FBCR 403: Foundation Plans

Select From Drop down

30	Location of all load-bearing walls footings indicated as standard, monolithic, dimensions, size and type of reinforcing.	- ✓		
31	All posts and/or column footing including size and reinforcing	- ✓		
32	Any special support required by soil analysis such as piling.	- ✓		
33	Assumed load-bearing valve of soil _____ Pound Per Square Foot	- ✓		
34	Location of horizontal and vertical steel, for foundation or walls (include # size and type) **For** structures with foundation which establish new electrical utility companies service connection a Concrete Encased Electrode will be required within the foundation to serve as an grounding electrode system. Per the National Electrical Code article 250.52.3	- ✓		

FBCR 506: CONCRETE SLAB ON GRADE

35	Show Vapor retarder (6mil. Polyethylene with joints lapped 6 inches and sealed)	- ✓		
36	Show control joints, synthetic fiber reinforcement or welded fire fabric reinforcement and Supports	- ✓		

FBCR 318: PROTECTION AGAINST TERMITES

37	Indicate on the foundation plan if soil treatment is used for subterranean termite prevention or Submit other approved termite protection methods. **Protection shall be provided by registered termiticides**	- ✓		

FBCR 606: Masonry Walls and Stem walls (load bearing & shear Walls)

38	Show all materials making up walls, wall height, and Block size, mortar type	- ✓		
39	Show all Lintel sizes, type, spans and tie-beam sizes and spacing of reinforcement	- ✓		

Metal frame shear wall and roof systems shall be designed, signed and sealed by Florida Prof. Engineer or Architect

Floor Framing System: First and/or second story

40	Floor truss package shall including layout and details, signed and sealed by Florida Registered Professional Engineer	- ✓		
41	Show conventional floor joist type, size, span, spacing and attachment to load bearing walls, stem walls and/or priers	- ✓		
42	Girder type, size and spacing to load bearing walls, stem wall and/or priers	- ✓		
43	Attachment of joist to girder	- ✓		
44	Wind load requirements where applicable	- ✓		
45	Show required under-floor crawl space	- ✓		
46	Show required amount of ventilation opening for under-floor spaces	- ✓		
47	Show required covering of ventilation opening	- ✓		
48	Show the required access opening to access to under-floor spaces	- ✓		
49	Show the sub-floor structural panel sheathing type, thickness and fastener schedule on the edges & intermediate of the areas structural panel sheathing	- ✓		
50	Show Draftstopping, Fire caulking and Fire blocking	- ✓		
51	Show fireproofing requirements for garages attached to living spaces, per FBCR section 302.6	- ✓		
52	Provide live and dead load rating of floor framing systems (psf).	- ✓		

FBCR CHAPTER 6 WOOD WALL FRAMING CONSTRUCTION

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable		
		Select from Drop down		
53	Stud type, grade, size, wall height and oc spacing for all load bearing or shear walls	- ✓		
54	Fastener schedule for structural members per table FBC-R602.3.2 are to be shown	- ✓		
55	Show wood structural panel's sheathing attachment to studs, joist, trusses, rafters and structural members, showing fastener schedule attachment on the edges & intermediate of the areas structural panel sheathing	- ✓		
56	Show all required connectors with a max uplift rating and required number of connectors and oc spacing for continuous connection of structural walls to foundation and roof trusses or rafter systems	- ✓		
57	Show sizes, type, span lengths and required number of support jack studs, king studs for shear wall opening and girder or header per FBC-R602.7.	- ✓		
58	Indicate where pressure treated wood will be placed	- ✓		
59	Show all wall structural panel sheathing, grade, thickness and show fastener schedule for structural panel sheathing edges & intermediate areas	- ✓		
60	A detail showing gable truss bracing, wall balloon framing details or/ and wall hinge bracing detail	- ✓		

FBCR :ROOF SYSTEMS:

61	Truss design drawing shall meet section FBC-R 802.10. I Wood trusses	- ✓		
62	Include a layout and truss details, signed and sealed by Florida Professional Engineer	- ✓		
63	Show types of connector's assemblies' and resistance uplift rating for all trusses and rafters	- ✓		
64	Show gable ends with rake beams showing reinforcement or gable truss and wall bracing details	- ✓		
65	Provide dead load rating of trusses	- ✓		

FBCR 802:Conventional Roof Framing Layout

66	Rafter and ridge beams sizes, span, species and spacing	- ✓		
67	Connectors to wall assemblies' include assemblies' resistance to uplift rating	- ✓		
68	Valley framing and support details	- ✓		
69	Provide dead load rating of rafter system	- ✓		

FBCR 803 ROOF SHEATHING

70	Include all materials which will make up the roof decking, identification of structural panel sheathing, grade, thickness	- ✓		
71	Show fastener Size and schedule for structural panel sheathing on the edges & intermediate areas	- ✓		

ROOF ASSEMBLIES FRC Chapter 9

72	Include all materials which will make up the roof assembles covering	- ✓			
73	Submit Florida Product Approval numbers for each component of the roof assembles covering	- ✓			

FBCR Chapter 11 Energy Efficiency Code for Residential Building

Residential construction shall comply with this code by using the following compliance methods in the FBCR Chapter 11 Residential buildings compliance methods. **Two of the required forms are to be submitted.** *N1100.1.1.1 As an alternative to the computerized Compliance Method A, the Alternate Residential Point System Method hand calculation, Alternate Form 600A, may be used. All requirements specific to this calculation are located in Sub appendix C to Appendix G. Buildings complying by this alternative shall meet all mandatory requirements of this chapter. Computerized versions of the Alternate Residential Point System Method shall not be acceptable for code compliance.*

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable			
		Select from Drop Down			
74	Show the insulation R value for the following areas of the structure	- ✓			
75	Attic space	- ✓			
76	Exterior wall cavity	- ✓			
77	Crawl space	-			✓

HVAC information

78	Submit two copies of a Manual J sizing equipment or equivalent computation study	- ✓			
79	Exhaust fans shown in bathrooms **Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous required**	- ✓			
80	Show clothes dryer route and total run of exhaust duct	- ✓			

Plumbing Fixture layout shown

81	All fixtures waste water lines shall be shown on the foundation plan	- ✓			
82	Show the location of water heater	- ✓			

Private Potable Water

83	Pump motor horse power	- ✓			✓
84	Reservoir pressure tank gallon capacity	-			✓
85	Rating of cycle stop valve if used	-			✓

Electrical layout shown including

86	Show Switches, receptacles outlets, lighting fixtures and Ceiling fans	- ✓			
87	Show all 120-volt, single phase, 15- and 20-ampere branch circuits outlets required to be protected by **Ground-Fault Circuit Interrupter (GFCI) Article 210.8 A**	- ✓			
88	Show the location of smoke detectors & Carbon monoxide detectors	- ✓			
89	Show service panel, sub-panel, location(s) and total ampere ratings	- ✓			
90	On the electrical plans identify the electrical service overcurrent protection device for the main electrical service. This device shall be installed on the exterior of structures to serve as a disconnecting means for the utility company electrical service. Conductors used from the exterior disconnecting means to a panel or sub panel shall have four-wire conductors, of which one conductor shall be used as an equipment ground. Indicate if the utility company service entrance cable will be of the overhead or underground type. **For structures** with foundation which establish new electrical utility companies service connection a Concrete Encased Electrode will be required within the foundation to serve as an Grounding electrode system. Per the National Electrical Code article 250.52.3	- ✓			
91	Appliances and HVAC equipment and disconnects	- ✓			
92	Show all 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed **Combination arc-fault circuit interrupter,** Protection device.	- ✓			

Notice Of Commencement:

A notice of commencement form RECORDED in the Columbia County Clerk Office is required to be filed with the Building Department BEFORE ANY INSPECTIONS can be performed.

GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

****ITEMS 95, 96, & 98 Are Required After APPROVAL from the ZONING DEPT.****

Select from Drop down

93	**Building Permit Application** A current Building Permit Application is to be completed, by following the Checklist all supporting documents must be submitted. There is a **$15.00** application fee. The completed application with attached documents and application fee can be mailed.	-	✓		
94	**Parcel Number** The parcel number (Tax ID number) from the Property Appraisers Office (386) 758-1083 is required. A copy of property deed is also required. www.columbiacountyfla.com	-	✓		
95	**Environmental Health Permit or Sewer Tap Approval** A copy of a approved Columbia County Environmental Health (386) 758-1058	-	✓		
96	**City of Lake City** A City Water and/or Sewer letter. Call 386-752-2031	-			✓
97	**Toilet facilities shall be provided for all construction sites**	-			
98	**Town of Fort White** (386) 497-2321 If the parcel in the application for building permit is within the Corporate city limits of Fort White, an approval land use development letter issued by the Town of Fort is required to be submitted with the application for a building permit.	-			✓
99	**Flood Information:** All projects within the Floodway of the Suwannee or Santa Fe Rivers shall require permitting through the Suwannee River Water Management District, before submitting a application to this office. Any project located within a flood zone where the base flood elevation (100 year flood) has been established shall meet the requirements of Section 8.5.2 of the Columbia County Land Development Regulations. Any project located within a flood zone where the base flood elevation has not been established (Zone A) shall meet the requirements of Section 8.5.3 of the Columbia County Land Development Regulations (Municode.com)	-			✓
100	**CERTIFIED FINISHED FLOOR ELEVATIONS** will be required on any project where the approved FIRM Flood Maps show the property is in a AE, Floodway, and AH flood zones. Additionally One Foot Rise letters are required for AE and AH zones. In the Floodway Flood zones a Zero Rise letter is required.	-			✓
101	A Flood development permit is also required for AE, Floodway & AH. Development permit cost is **$50.00**	-			✓
102	**Driveway Connection:** If the property does not have an existing access to a public road, then an application for a culvert permit (**$25.00**) must be made. County Public Works Dept. determines the size and length of every culvert before instillation and completes a final inspection before permanent power is granted. If the applicant feels that a culvert is not needed, they may apply for a culvert waiver (**$50.00**) Separate Check when issued. If the project is to be located on an F.D.O.T. maintained road, then an F.D.O.T. access permit is required.	-			✓
103	**911 Address:** An application for a 911address must be applied for and **received** through the Columbia County Emergency Management Office of 911 Addressing Department (386) 758-1125.	-	✓		

Ordinance Sec. 90-75. - Construction debris. (e) It shall be unlawful for any person to dispose of or discard solid waste, including construction or demolition debris at any place within the county other than on an authorized disposal site or at the county's solid waste facilities. The temporary storage, not to exceed seven days of solid waste (excluding construction and demolition debris) on the premises where generated or vegetative trash pending disposition as authorized by law or ordinance, shall not be deemed a violation of this section. The temporary storage of construction and demolition debris on the premises where generated or vegetative trash pending disposition as authorized by law or ordinance shall not be deemed in violation of this section; provided, however, such construction and demolition debris must be disposed of in accordance with this article prior to the county's issuance of a certificate of occupancy for the premises. The burning of lumber from a construction or demolition project or vegetative trash when done so with legal and proper permits from the authorized agencies and in accordance with such agencies' rules and regulations, shall not be deemed a violation of this section. No person shall bury, throw, place, or deposit, or cause to be buried, thrown, placed, or deposited, any solid waste, special waste, or debris of any kind into or on any of the public streets, road right-of-way, highways, bridges, alleys, lanes, thoroughfares, waters, canals, or vacant lots or lands within the county. No person shall bury any vegetative trash on any of the public streets, road right-of-way, highways, bridges, lanes, thoroughfares, waters, canals, or lots less than ten acres in size within the county.

Disclosure Statement for Owner Builders:

If you as the Applicant will be acting as your own contractor or owner/builder under section 489.103(7) Florida Statutes, you must submit the required notarized Owner Builder Disclosure Statement form.

**This form can be printed from the Columbia County Website on the Building and Zoning page under Documents. Web address is - http://www.columbiacountyfla.com/BuildingandZoning.asp

Section 105 of the Florida Building Code defines the:

Time limitation of application.

An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Single-family residential dwelling.

Section 105.3.4 A building permit for a single-family residential dwelling must be issued within 30 working days of application therefor unless unusual circumstances require a longer time for processing the application or unless the permit application fails to satisfy the Florida Building Code or the enforcing agency's laws or ordinances.

Permit intent.

Section 105.4.1: A permit issued shall be constructed to be a license to proceed with the work and not as authority to violate, cancel, alter or set aside any of the provisions of the technical codes, nor shall issuance of a permit prevent the building official from thereafter requiring a correction of errors in plans, construction or violations of this code. Every permit issued shall become invalid unless the work authorized by such permit is commenced within six months after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of six months after the time the work is commenced.

If work has commenced.

Section 105.4.1.1: If work has commenced and the permit is revoked, becomes null and void, or expires because of lack of progress or abandonment, a new permit covering the proposed construction shall be obtained before proceeding with the work.

New Permit.

Section 105.4.1.2: If a new permit is not obtained within 180 days from the date the initial permit became null and void, the building official is authorized to require that any work which has been commenced or completed be removed from the building site. Alternately, a new permit may be issued on application, providing the work in place and required to complete the structure meets all applicable regulations in effect at the time the initial permit became null and void and any regulations which may have become effective between the date of expiration and the date if issuance of the new permit.

Work Shall Be:

Section 105.4.1.3: Work shall be considered to be in active progress when the permit has received an approved inspection within 180 days. This provision shall not be applicable in case of civil commotion or strike or when the building work is halted due directly to judicial injunction, order or similar process.

The Fee:

Section 105.4.1.4: The fee for renewal reissuance and extension of a permit shall be set forth by the administrative authority.

Notification:

When the application is approved for permitting the applicant will be notified by phone as to the status by the Columbia County Building & Zoning Department.

Inst. Number: 201912016058 Book: 1388 Page: 2064 Page 1 of 3 Date: 7/12/2019 Time: 3:36 PM
P.DeWitt Cason Clerk of Courts, Columbia County, Florida Doc Deed: 565.60 Doc Mort: 0.00 Int Tax: 0.00

Rec.
Doc.

This instrument was prepared by.
record and return to:
Jon I. McGraw, Esq.
Schatt & Hesser, McGraw
328 N.E. 1st Avenue, Suite 100
Ocala, FL 34470
352-789-6520

QUITCLAIM DEED

THIS INDENTURE, made effective the 12 day of June, 2019, between **PATRICK R. GILMORE and JESSICA CAMP, husband and wife,** whose address is 14991 NE Jacksonville Road, Citra, Florida 32113, Grantor, and **RJ INDUSTRIES LLC, a Florida limited liability company,** whose address is 14991 NE Jacksonville Road, Citra, Florida 32113, Grantee. (Wherever used herein the terms "Grantor" and "Grantee" include all the parties to the instrument and the heirs, legal representatives and assigns of the individuals, and the successors and assigns of corporations).

WITNESSETH, that said Grantor, for and in consideration of the sum of Ten and No/100 Dollars ($10.00) and other good and valuable considerations, receipt of which is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto Grantees all that certain land situate in Columbia County, Florida, to wit:

SEE ATTACHED EXHIBIT "A"

Property Appraiser's Parcel I.D. Number: 19-6S-16-03885-000

SUBJECT TO:

1. Ad valorem taxes for 2019 and subsequent years;
2. Any and all governmental zoning laws, rules and regulations applicable to the property;
3. Easements, reservations, declaration of covenants, conditions and restrictions and riparian rights of record, if any.

Together with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, encumbrances, interest, lien, equity and claim whatsoever of Grantor, either in law or equity, to the only proper use, benefit and behoof of the Grantee forever.

Grantor and Grantee are used for singular or plural, as context requires.

IN WITNESS WHEREOF, Grantor has hereunto set Grantor's hand and seal the day and year first above written.

Signed, sealed and delivered
in our presence as to all:

Witness
(Print Name)

Witness
(Print Name)

GRANTOR:

BY:
Patrick R. Gilmore

And

BY:
Jessica Camp

STATE OF FLORIDA
COUNTY OF MARION

I HEREBY CERTIFY that on this day before me, an officer duly qualified to take acknowledgments, personally appeared Patrick R. Gilmore and Jessica Camp, husband and wife, known to me (YES _____ NO X) to be the persons described in and who executed the foregoing instrument, OR who have produced FL DL _____ as identification and acknowledged before me that they executed same for the purposes expressed herein.

WITNESS my hand and official seal in the County and State last aforesaid this 12 day of June, 2019.

_____(Print Name)
Notary Public, State of Florida
My Commission Expires:

SIERRA TUCKER
Commission # GG 243388
Expires July 30, 2022
Bonded Thru Budget Notary Services

Commence at the Intersection of the East line of the SE 1/4 of the SE 1/4 of Section 19, Township 6 South, Range 16 East, and the North right of way line of US Highway No. 27 and run North 1 degrees 45' West, along said East line, 532.89 feet, thence South 88 degrees 15' West, 210 feet to the Point of Beginning; thence continue South 88 degrees 15' West, 210.00 feet; thence North 1 degrees 45' West, 130.00 feet; thence North 88 degrees 15' East, 210.00 feet; thence South 1 degrees 45' East, 130.00 feet to the Point of Beginning, Columbia County, Florida.

Together with a 15 foot easement: Commence at the Intersection of the East line of the SE 1/4 of the SE 1/4 of Section 19, Township 6 South, Range 16 East, and the North right of way line of US Highway No. 27 and run North 48 degrees 52' 16" West, along the North right of way line of said U.S. Highway No. 27, a distance of 614.09 feet to the East line of a 15 foot easement and the Point of Beginning; thence North 1 degrees 45' West, 244.74 feet; thence South 88 degrees 15' West, 15.00 feet; thence South 1 degrees 45' East, 230.81 feet to the north right of way line of said U.S. Highway No. 27; thence South 48 degrees 52' 16" East, along said North right of way line, 20.47 feet to the Point of Beginning.

Together with a 30 foot easement: Commence at the intersection of the East line of the SE 1/4 of the SE 1/4 of Section 19, Township 6 South, Range 16 East, and the North right of way line of U.S. Highway No. 27 and run North 48 degrees 52' 16" West, along the North right of way line of said U.S. Highway No. 27, a distance of 573.15 feet to the East line of a 30 foot easement and the Point of Beginning; thence North 1 degrees 45' West, along the East line of said 30 foot easement, 272.60 feet; thence South 88 degrees 15' West, 30.00 feet, thence South 1 degrees 45' East, 244.74 feet to the North right of way line of said U.S. Highway No. 27, thence South 48 degrees 52' 16" East, along said North right of way line 40.94 feet to the Point of Beginning.

And

Commence at the intersection of the East line of the Southeast 1/4 of the Southeast 1/4 of Section 19, Township 6 South, Range 16 East, Columbia County, Florida, and the North right of way line of U.S. Highway No. 27 and run North 01 degrees 45' West, along said East line 532.89 feet to the Point of Beginning; thence South 88 degrees 15' West, 210 feet; thence North 01 degrees 45' West, 130 feet; thence South 88 degrees 15' West, 300 feet, thence North 01 degrees 45' West, 430 feet; thence North 88 degrees 15' East, 510 feet to said East line; thence South 1 degrees 45' East, along said East line 560 feet to the Point of Beginning.

Together with:

15 foot easement: commence at the intersection of the East line of the Southeast 1/4 of the Southeast 1/4 of Section 19, Township 6 South, Range 16 East, Columbia County, Florida and the North right of way line of U.S. Highway No. 27 and run North 48 degrees 52' 16" West, along the North right of way line of said U.S. Highway No. 27, a distance of 614.09 feet to the East line of a 15.00 foot easement and the Point of Beginning; thence North 1 degrees 45' East, 244.74 feet; thence South 88 degrees 15' West, 15.00 feet; thence South 1 degrees 45' East, 230.81 feet to the North right of way line of said U.S. High No. 27; thence South 48 degrees 52' 16" East, along said North right of way line, 20.47 feet to the Point of Beginning.

Also:
30 foot easement: Commence at the intersection of the East line of the Southeast 1/4 of the Southeast 1/4 of Section 19, Township 6 South, Range 16 East, Columbia County, Florida and the North right of way line of U.S. Highway No. 27, and run North 48 degrees 52' 16" West, along the North right of way line of U.S. Highway No. 27, a distance of 573.15 feet to the East line of a 30 foot easement and the Point of Beginning; thence North 1 degrees 45' West, along the East line of said 30 foot easement, 272.60 feet; thence South 88 degrees 15' West, 30.00 feet; thence South 1 degrees 45' East, 244.74 feet to the North right of way line of said U.S. Highway No. 27; thence South 48 degrees 52' 16" East, along said North right of way line, 40.94 feet to the Point of Beginning.

AND

Commence at the point of intersection of the North Right-of-Way line of U.S. Highway No. 27 and the East line of the Southeast 1/4 of the Southeast 1/4 of Section 19, Township 6 South, Range 16 East, Columbia County, Florida, and run North 48 deg. 51' West along the right-of-way line 377 feet to the Point of Beginning; thence continue North 48 deg. 51' West, 196.00 feet; thence North 1 deg. 45' West, 142.6 feet; thence North 88 deg. 15' East, 210.00 feet; thence South 1 deg. 45' East, 210.00 feet, thence South 43 deg. 15' West, 93.7 feet to the Point of Beginning, Being a part of the Southeast 1/4 of the Southeast 1/4.
ALSO
Approximately the West 90 feet of the following property:
Begin at the intersection of the East line of the Southeast 1/4 of Section 19, Township 6 South, Range 16 East, Columbia County, Florida, and the North right-of-way line of U.S. Highway No. 27 and run North 1 deg. 45' West, along said East line 532.70 feet; thence South 88 deg. 15' West, 210.00 feet; thence North 1 deg. 45' West, 130.00 feet; thence South 88 deg. 15' West, 300.00 feet; thence South 1 deg. 45' East, to the North right-of-way line of U.S. Highway No. 27; thence continue in a Southeast direction along the North line of U.S. Highway No. 27 to the Point of Beginning.

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and approval numbers on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products. Statewide approved products are listed online @ www.floridabuilding.org

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)
1. EXTERIOR DOORS			
A. SWINGING	Therm-Tru		FL-15225.2
B. SLIDING			
C. SECTIONAL/ROLL UP			
D. OTHER			
2. WINDOWS			
A. SINGLE/DOUBLE HUNG	Pella Windows		FL-12952.2
B. HORIZONTAL SLIDER			
C. CASEMENT			
D. FIXED			
E. MULLION	Pella Windows		FL-13815.1
F. SKYLIGHTS			
G. OTHER			
3. PANEL WALL			
A. SIDING			
B. SOFFITS			
C. STOREFRONTS			
D. GLASS BLOCK			
E. OTHER			
4. ROOFING PRODUCTS			
A. ASPHALT SHINGLES			
B. NON-STRUCTURAL METAL	Gulf Coast	26 Ga PBR	FL-11651
C. ROOFING TILES			
D. SINGLE PLY ROOF			
E. OTHER			
5. STRUCTURAL COMPONENTS			
A. WOOD CONNECTORS	Simpson		FL-10456
B. WOOD ANCHORS			
C. TRUSS PLATES	Alpine		
D. INSULATION FORMS			FL-1999
E. LINTELS			
F. OTHERS			
6. NEW EXTERIOR ENVELOPE PRODUCTS			

The products listed below did not demonstrate product approval at plan review. I understand that at the time of inspection of these products, the following information must be available to the inspector on the jobsite; 1) copy of the product approval, 2) performance characteristics which the product was tested and certified to comply with, 3) copy of the applicable manufacturers installation requirements.
Further, I understand these products may have to be removed if approval cannot be demonstrated during inspection.

Contractor OR Agent Signature Date NOTES: _____

Lumber design values are in accordance with ANSI/TPI 1 section 6.3
These truss designs rely on lumber values established by others.

RE: S1220 - GILMORE RES

MiTek USA, Inc.
6904 Parke East Blvd.
Tampa, FL 33610-4115

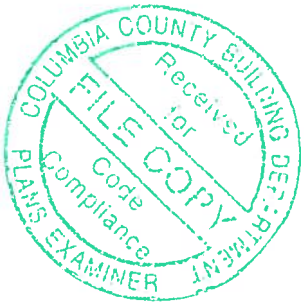
Site Information:
Customer Info: GADCO Project Name: GILMORE Model: 000
Lot/Block: 000 Subdivision: 000
Address: 000, 000
City: 000 State: FL

Name Address and License # of Structural Engineer of Record, If there is one, for the building.
Name: License #:
Address:
City: State:

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):
Design Code: FRC2017/TPI2014 Design Program: MiTek 20/20 8.2
Wind Code: ASCE 7-10 Wind Speed: 140 mph
Roof Load: 37.0 psf Floor Load: N/A psf

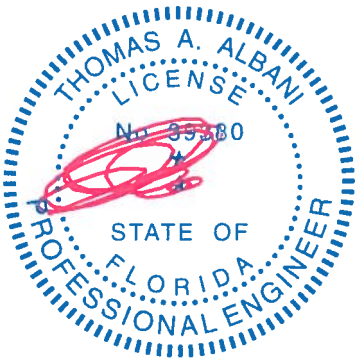
This package includes 9 individual, Truss Design Drawings and 0 Additional Drawings.
With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

No.	Seal#	Truss Name	Date
1	T18043898	CAP1	9/5/19
2	T18043899	CAP2	9/5/19
3	T18043900	CAP3	9/5/19
4	T18043901	CAP4	9/5/19
5	T18043902	T1	9/5/19
6	T18043903	T2	9/5/19
7	T18043904	T3	9/5/19
8	T18043905	T4	9/5/19
9	T18043906	T5	9/5/19



The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Duley Truss.

Truss Design Engineer's Name: Albani, Thomas
My license renewal date for the state of Florida is February 28, 2021.



Thomas A. Albani PE No.39380
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:
September 5,2019

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	GILMORE RES
S1220	CAP1	GABLE	24	1	T18043898
					Job Reference (optional)

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:43 2019 Page 1
ID:AMnGBqM9o3FaPdlsuvOqloyggBQ-hdzNrALyTmuK94d41_unzDGk2578N5jVT5cTEyygfvQ

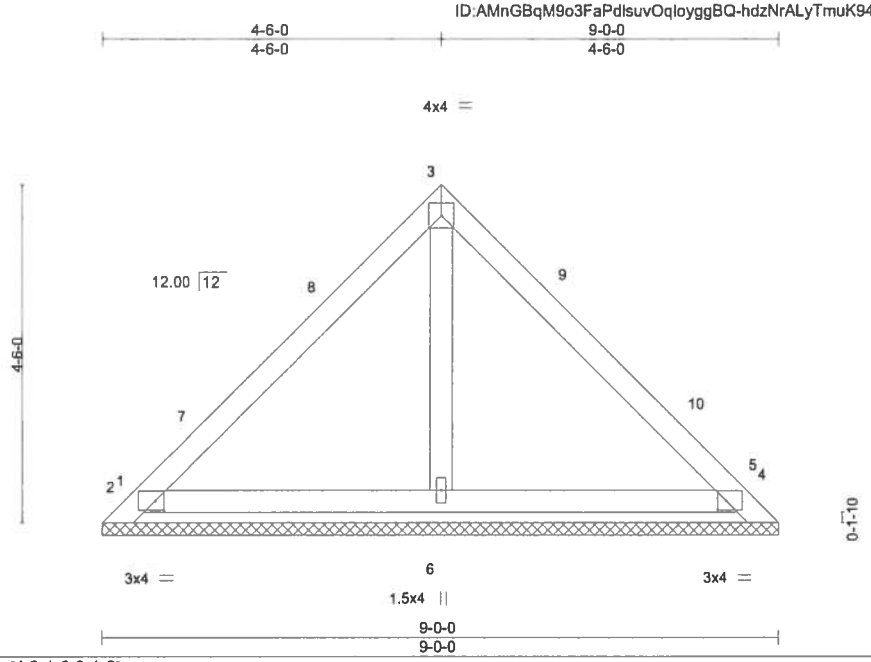


Plate Offsets (X,Y)-- [2:0-1-6,0-1-8], [4:0-1-6,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.34	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.14	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-P							Weight: 36 lb	FT = 20%

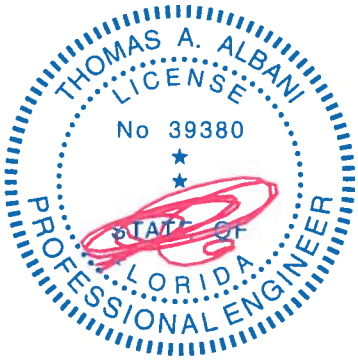
LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 9-0-0.
(lb) - Max Horz 1=-159(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-450(LC 17), 5=-358(LC 18), 2=-556(LC 12), 4=-556(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 6 except 1=425(LC 12), 5=425(LC 12), 2=647(LC 17), 4=574(LC 18)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-349/385, 4-5=-348/349

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) 0-2-8 to 3-2-8, Interior(1) 3-2-8 to 4-6-0, Exterior(2) 4-6-0 to 7-6-0, Interior(1) 7-6-0 to 8-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Bearing at joint(s) 5, 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 450 lb uplift at joint 1, 358 lb uplift at joint 5, 556 lb uplift at joint 2 and 556 lb uplift at joint 4.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



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Date:
September 5,2019

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Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043899
S1220	CAP2	Piggyback	2	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:44 2019 Page 1
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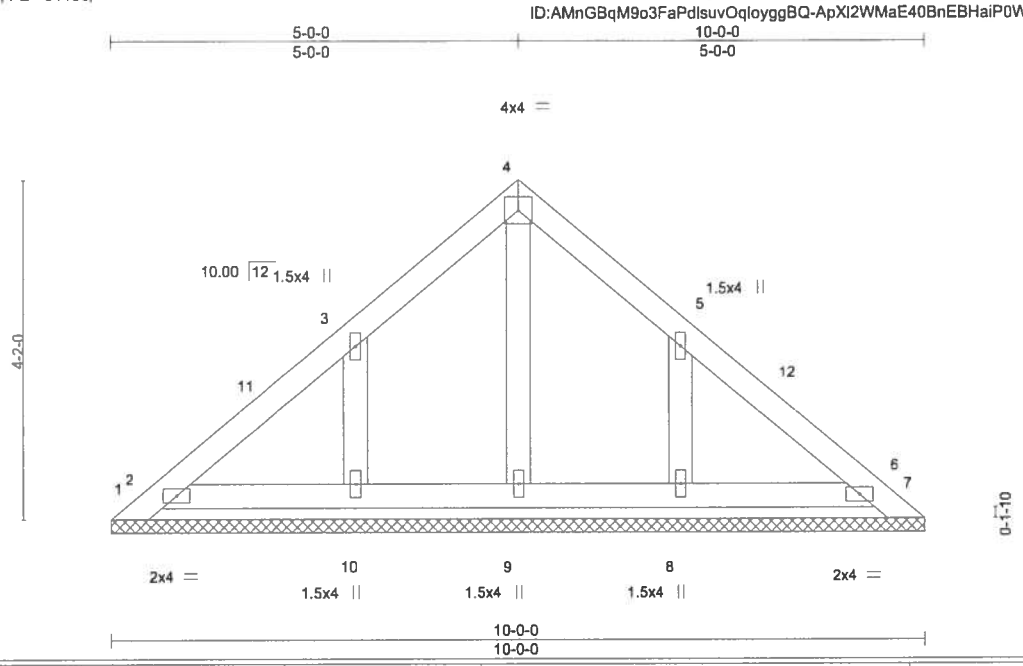

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-P							Weight: 43 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 10-0-0.
(lb) - Max Horz 1=-139(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 7, 2, 6 except 1=-126(LC 10), 10=-146(LC 12), 8=-146(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 1, 7, 2, 6, 9, 10, 8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) 0-2-12 to 3-0-0, Interior(1) 3-0-0 to 5-0-0, Exterior(2) 5-0-0 to 8-0-0, Interior(1) 8-0-0 to 9-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 7, 2, 6 except (jt=lb) 1=126, 10=146, 8=146.
9) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

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Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043900
S1220	CAP3	GABLE	14	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:45 2019 Page 1
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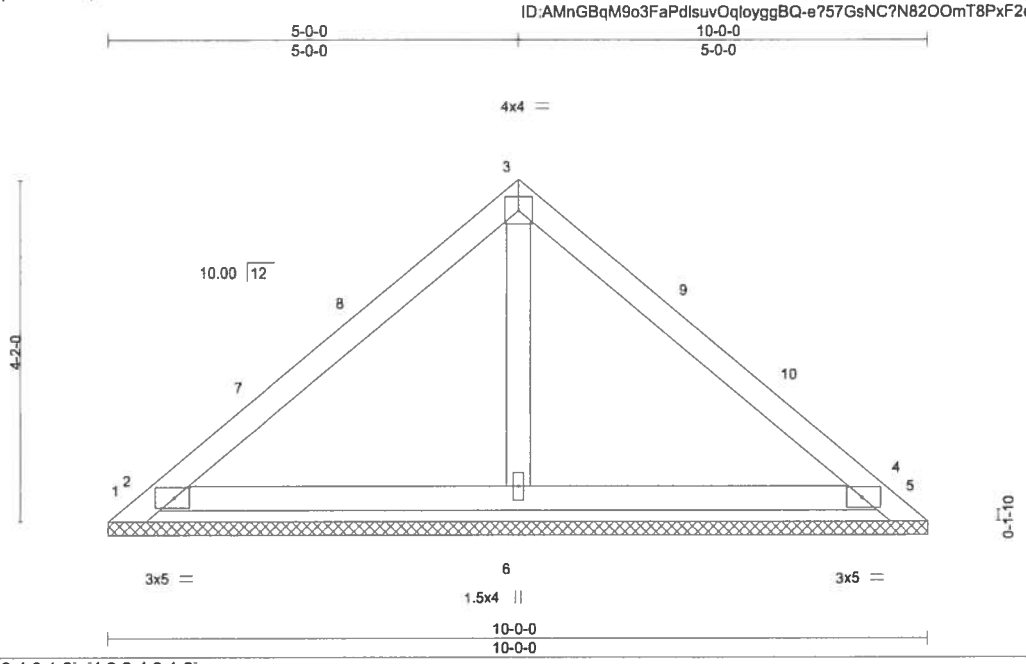

Plate Offsets (X,Y)— [2:0-2-4,0-1-8], [4:0-2-4,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.34	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.17	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-P							Weight: 37 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 10-0-0.
(lb) - Max Horz 1=-139(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-411(LC 17), 5=-341(LC 18), 2=-513(LC 12), 4=-513(LC 12)
Max Grav All reactions 250 lb or less at joint(s) except 1=375(LC 12), 5=375(LC 12), 2=628(LC 17), 4=577(LC 18), 6=253(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-273/332, 4-5=-272/291

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) 0-2-12 to 3-2-12, Interior(1) 3-2-12 to 5-0-0, Exterior(2) 5-0-0 to 8-0-0, Interior(1) 8-0-0 to 9-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 411 lb uplift at joint 1, 341 lb uplift at joint 5, 513 lb uplift at joint 2 and 513 lb uplift at joint 4.
9) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

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Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043901
S1220	CAP4	GABLE	2	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:46 2019 Page 1
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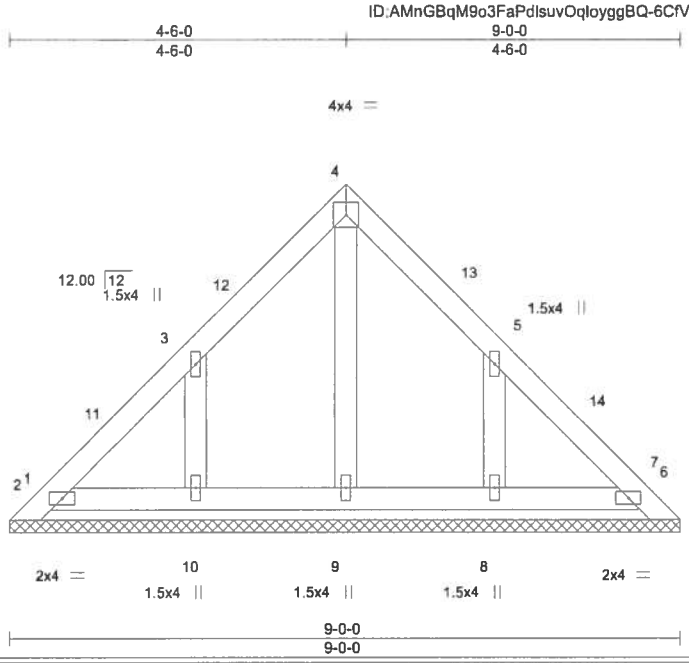


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-P							Weight: 41 lb	FT = 20%

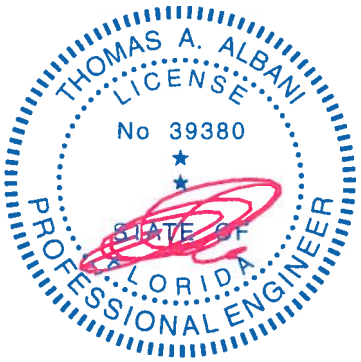
LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 9-0-0.
(lb) - Max Horz 1=-159(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 7, 2, 6 except 1=-149(LC 10), 10=-169(LC 12), 8=-169(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 1, 7, 2, 6, 9, 10, 8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 3-10=-261/266, 5-8=-261/266

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) 0-2-8 to 3-2-8, Interior(1) 3-2-8 to 4-6-0, Exterior(2) 4-6-0 to 7-6-0, Interior(1) 7-6-0 to 8-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Bearing at joint(s) 7, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 7, 2, 6 except (jt=lb) 1=149, 10=169, 8=169.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



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September 5,2019

Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043902
S1220	T1	Piggyback Base Supported Gable	2	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:48 2019 Page 1
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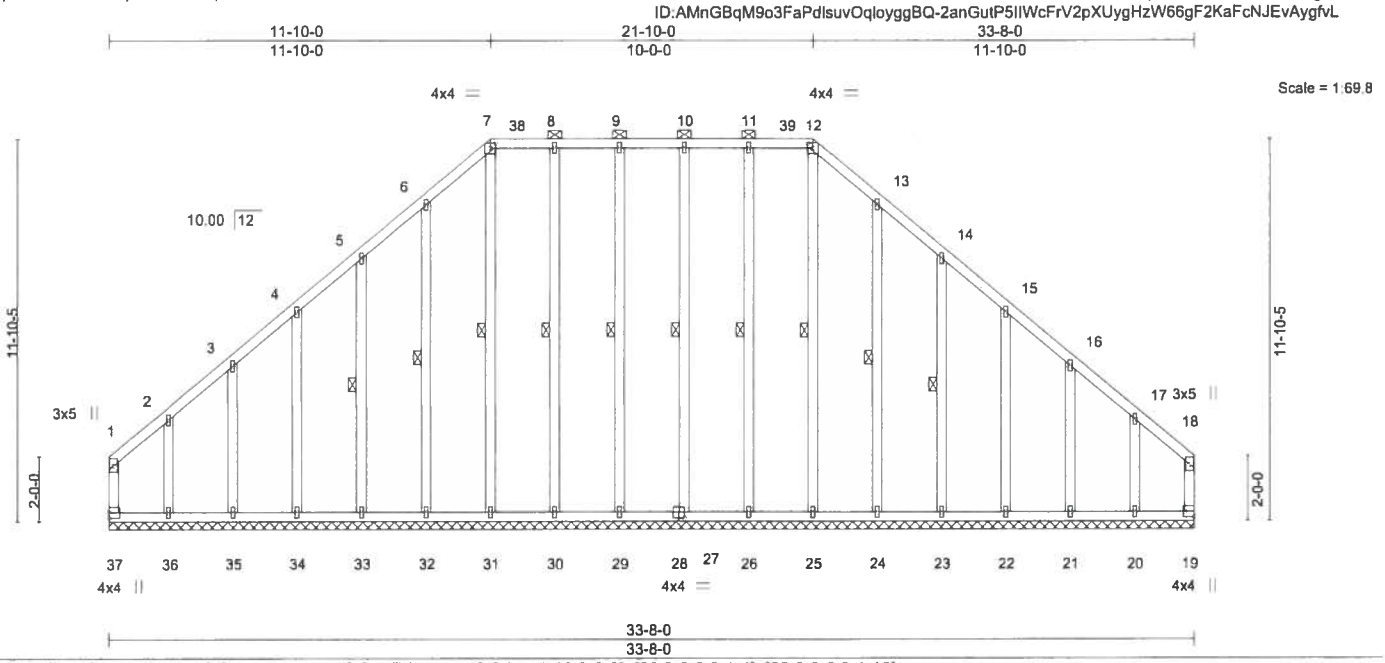

Plate Offsets (X,Y)-- [7:0-2-0,0-1-13], [12:0-2-0,0-1-13], [19:Edge,0-3-8], [27:0-1-12,0-0-0], [28:0-2-0,0-1-4], [28:0-0-0,0-1-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.64	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.34	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.19	Horz(CT)	-0.01	19	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-R							Weight: 311 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 12-25, 11-26, 10-27, 9-29, 8-30, 7-31, 6-32, 5-33, 13-24, 14-23

REACTIONS. All bearings 33-8-0.
(lb) - Max Horz 37=-457(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 26, 27, 29, 30 except 37=-377(LC 10), 19=-345(LC 11), 32=-109(LC 12), 33=-129(LC 12), 34=-120(LC 12), 35=-113(LC 12), 36=-315(LC 11), 24=-109(LC 12), 23=-129(LC 12), 22=-120(LC 12), 21=-113(LC 12), 20=-292(LC 10)
Max Grav All reactions 250 lb or less at joint(s) 26, 27, 29, 30, 32, 33, 34, 35, 24, 23, 22, 21 except 37=448(LC 11), 19=415(LC 10), 25=284(LC 12), 31=284(LC 12), 36=473(LC 10), 20=450(LC 11)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-37=-285/238, 1-2=-337/302, 3-4=-236/281, 4-5=-338/403, 5-6=-446/534, 6-7=-545/650, 7-8=-453/547, 8-9=-452/547, 9-10=-452/547, 10-11=-452/547, 11-12=-453/547, 12-13=-545/650, 13-14=-446/534, 14-15=-338/403, 15-16=-235/280, 17-18=-312/276, 18-19=-264/216
WEBS 12-25=-285/228, 7-31=-285/228, 2-36=-251/216

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=34ft; eave=2ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Corner(3) 0-1-12 to 3-6-2, Exterior(2) 3-6-2 to 11-10-0, Corner(3) 11-10-0 to 15-2-6, Exterior(2) 15-2-6 to 21-10-0, Corner(3) 21-10-0 to 25-2-6, Exterior(2) 25-2-6 to 33-6-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Provide adequate drainage to prevent water ponding.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 26, 27, 29, 30 except (jt=lb) 37=377, 19=345, 32=109, 33=129, 34=120, 35=113, 36=315, 24=109, 23=129, 22=120, 21=113, 20=292.

Continued on page 2

THOMAS A. ALBANI LICENSE No 39380 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Date: September 5,2019

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Job	Truss	Truss Type	Qty	Ply	GILMORE RES
S1220	T1	Piggyback Base Supported Gable	2	1	T18043902
					Job Reference (optional)

NOTES-

12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	GILMORE RES	
S1220	T2	Piggyback Base	7	1	Job Reference (optional)	T18043903

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:49 2019 Page 1
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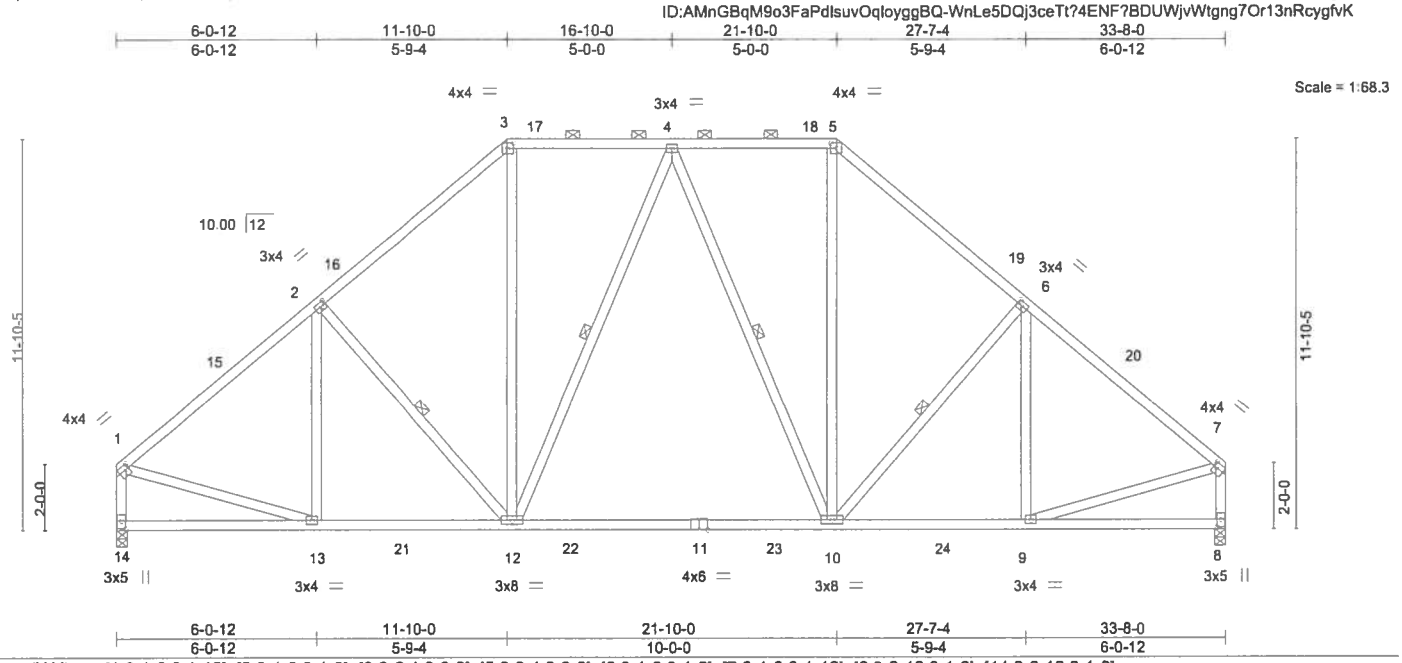

Plate Offsets (X,Y)-- [1:0-1-0,0-1-12], [2:0-1-8,0-1-8], [3:0-2-4,0-2-0], [5:0-2-4,0-2-0], [6:0-1-8,0-1-8], [7:0-1-0,0-1-12], [8:0-2-12,0-1-8], [14:0-2-12,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.51	Vert(LL)	-0.32	10-12	>999	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.90	Vert(CT)	-0.51	10-12	>778	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-MS							Weight: 248 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
WEBS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-11-2 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 9-4-3 oc bracing.
WEBS 1 Row at mldpt 2-12, 4-12, 4-10, 6-10

REACTIONS. (lb/size) 14=1235/0-4-0, 8=1235/0-4-0
Max Horz 14=-457(LC 10)
Max Uplift 14=-453(LC 12), 8=-453(LC 12)
Max Grav 14=1313(LC 17), 8=1313(LC 18)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1378/605, 2-3=-1288/732, 3-4=-1037/663, 4-5=-1037/663, 5-6=-1288/732, 6-7=-1379/605, 1-14=-1252/588, 7-8=-1252/589
BOT CHORD 13-14=-433/471, 12-13=-409/1257, 10-12=-264/1088, 9-10=-378/986
WEBS 2-12=-406/291, 3-12=-238/549, 4-12=-256/191, 4-10=-256/191, 5-10=-238/549, 6-10=-406/291, 1-13=-313/975, 7-9=-314/977

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=34ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) 0-1-12 to 3-6-2, Interior(1) 3-6-2 to 11-10-0, Exterior(2) 11-10-0 to 16-10-0, Interior(1) 16-10-0 to 21-10-0, Exterior(2) 21-10-0 to 26-7-2, Interior(1) 26-7-2 to 33-6-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 14=453, 8=453.
7) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

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Date:

September 5,2019

MiTek
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043904
S1220	T3	Attic	7	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:50 2019 Page 1
ID:AMnGBqM9o3FaPdlsuvOqloyggBQ-_zv0JZRLqwmKV9fQxyWQli2vZvBfW2vX4hoLz2ygfvJ

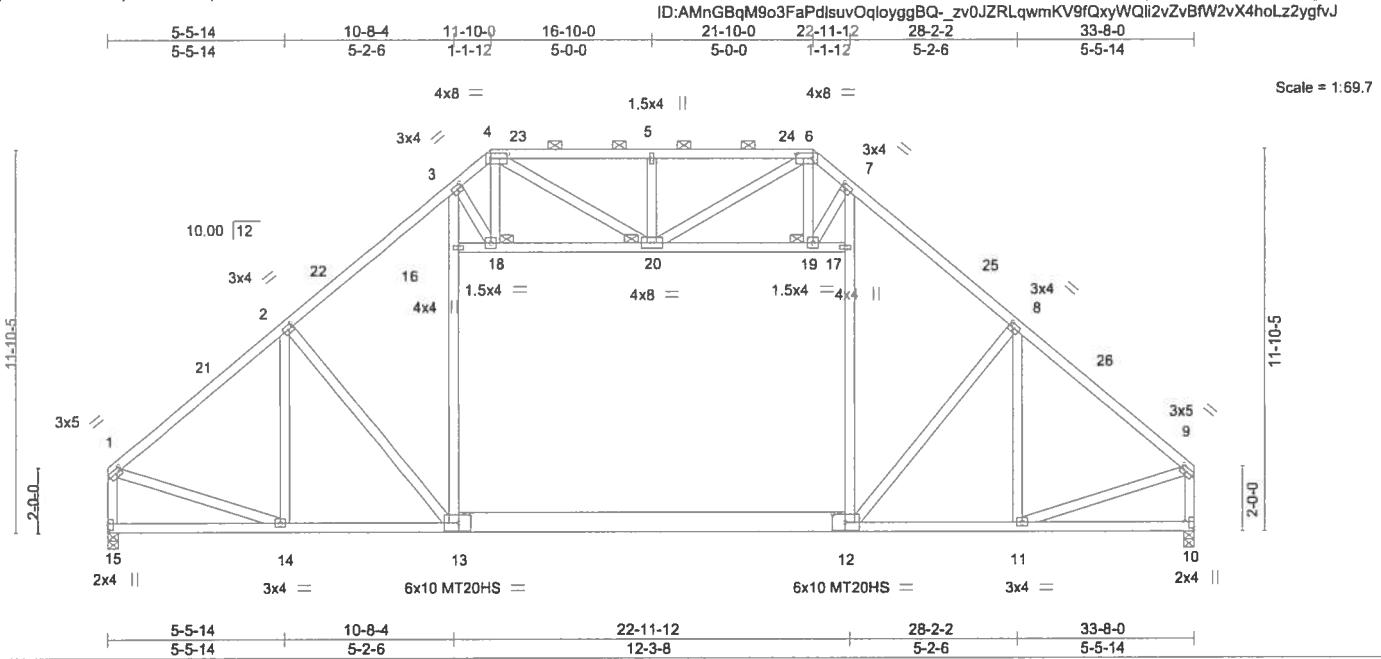

Plate Offsets (X,Y)-- [1:0-1-12,0-1-8], [2:0-1-8,0-1-8], [3:0-1-8,0-1-8], [4:0-6-4,0-2-0], [6:0-6-4,0-2-0], [7:0-1-8,0-1-8], [8:0-1-8,0-1-8], [9:0-1-12,0-1-8], [10:Edge,0-3-8], [12:0-4-12,0-3-0], [13:0-4-12,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.45	Vert(LL)	-0.62	13-14	>650	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.98	Vert(CT)	-0.64	13-14	>624	180	MT20HS	187/143
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.03	10	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-MS		Attic	-0.31	12-13	459	360	Weight: 274 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.1 *Except*
12-13: 2x8 SP No.1D
WEBS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-4-8 oc purlins, except end verticals, and 2-0-0 oc purlins (5-7-4 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
JOINTS 1 Brace at Jt(s): 18, 19, 20

REACTIONS. (lb/size) 15=1443/0-4-0, 10=1443/0-4-0
Max Horz 15=-457(LC 10)
Max Uplift 15=-293(LC 12), 10=-293(LC 12)
Max Grav 15=1622(LC 18), 10=1622(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1712/415, 2-3=-1723/520, 3-4=-1287/566, 4-5=-1203/627, 5-6=-1203/627, 6-7=-1287/566, 7-8=-1723/520, 8-9=-1713/415, 1-15=-1576/424, 9-10=-1575/424
BOT CHORD 14-15=-410/442, 13-14=-275/1526, 12-13=-92/1411, 11-12=-240/1227
WEBS 2-14=-431/130, 2-13=-295/299, 13-16=-39/645, 3-16=0/633, 18-20=-434/127, 19-20=-434/126, 12-17=-39/645, 7-17=0/633, 8-12=-295/299, 8-11=-431/130, 1-14=-177/1223, 9-11=-178/1221, 4-18=-176/653, 6-19=-176/653, 4-20=-252/434, 5-20=-304/279, 6-20=-252/434, 3-18=-724/235, 7-19=-724/235

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=34ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) 0-1-12 to 3-6-2, Interior(1) 3-6-2 to 11-10-0, Exterior(2) 11-10-0 to 16-10-0, Interior(1) 16-10-0 to 21-10-0, Exterior(2) 21-10-0 to 26-7-2, Interior(1) 26-7-2 to 33-6-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Ceiling dead load (5.0 psf) on member(s). 16-18, 18-20, 19-20, 17-19; Wall dead load (5.0psf) on member(s).13-16, 12-17
8) Bottom chord live load (30.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 12-13
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 15=293, 10=293.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Attic room checked for L/360 deflection.

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Date:

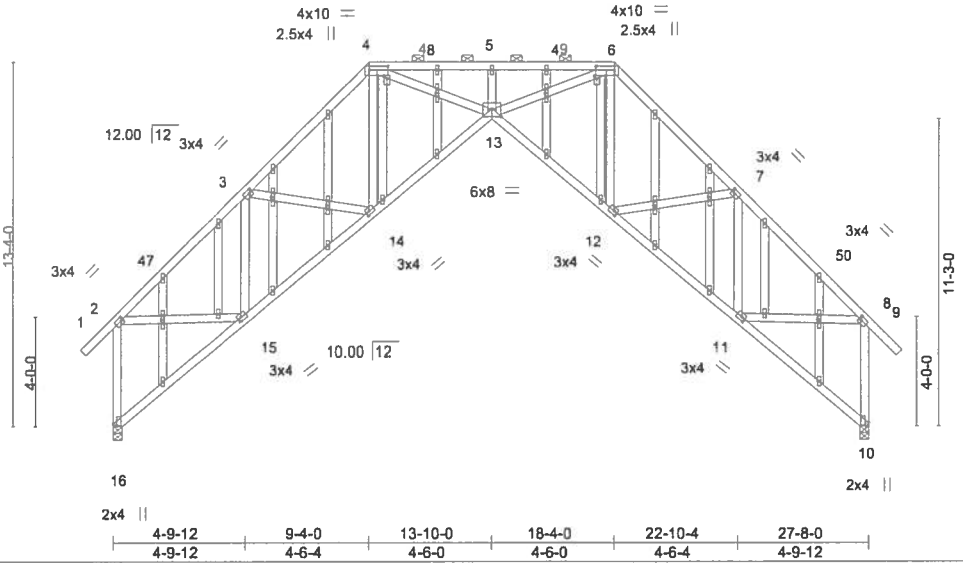
September 5,2019

Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043905
S1220	T4	GABLE	2	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:52 2019 Page 1
ID:AMnGBqM9o3FaPdlsuvOqloyggBQ-xM0mkFSbMX02kSpp2NZuq78DXj0I_1?qX_HS2xygfvH

-1-0-0	4-9-12	9-4-0	13-10-0	18-4-0	22-10-4	27-8-0	28-8-0
1-0-0	4-9-12	4-6-4	4-6-0	4-6-0	4-6-4	4-9-12	1-0-0

Scale = 1:82.4



4-9-12	9-4-0	13-10-0	18-4-0	22-10-4	27-8-0
4-9-12	4-6-4	4-6-0	4-6-0	4-6-4	4-9-12

Plate Offsets (X,Y)-- [2:0-1-0,0-1-8], [3:0-1-4,0-1-8], [4:0-1-3,0-1-4], [4:0-8-4,0-1-12], [6:0-8-4,0-1-12], [6:0-1-3,0-1-4], [7:0-1-4,0-1-8], [8:0-1-0,0-1-8], [10:0-0-13,0-1-8], [11:0-1-8,0-1-8], [12:0-1-8,0-1-8], [13:0-4-0,0-3-8], [14:0-1-8,0-1-8], [15:0-1-8,0-1-8], [16:0-0-13,0-1-8], [17:0-1-12,0-0-12], [21:0-1-9,0-0-12], [24:0-1-9,0-0-12], [29:0-1-8,0-0-12], [34:0-1-12,0-0-12], [38:0-1-9,0-0-12], [41:0-1-9,0-0-12], [46:0-1-8,0-0-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.54	Vert(LL)	0.29	13	>999	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.39	Vert(CT)	-0.45	13	>736	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.80	10	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-MS							Weight: 265 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
WEBS 2x4 SP No.3 *Except*
4-13,6-13: 2x4 SP No.2D
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-2-9 oc purlins, except end verticals, and 2-0-0 oc purlins (2-7-2 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 7-1-7 oc bracing.

REACTIONS. (lb/size) 16=1080/0-4-0, 10=1080/0-4-0
Max Horz 16=-606(LC 10)
Max Uplift 16=-451(LC 12), 10=-451(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1558/733, 3-4=-2038/838, 4-5=-4697/1531, 5-6=-4697/1531, 6-7=-1798/790, 7-8=-1320/636, 2-16=-1258/629, 8-10=-1046/638
BOT CHORD 15-16=-780/735, 14-15=-786/1772, 13-14=-711/2061, 12-13=-468/1756, 11-12=-438/1345
WEBS 3-15=-681/269, 3-14=-174/343, 4-14=-273/265, 4-13=-1040/3529, 6-13=-1240/3780, 6-12=-333/326, 7-12=-240/460, 7-11=-679/290, 2-15=-252/928, 8-11=-265/913

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=28ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) -1-1-4 to 1-10-12, Interior(1) 1-10-12 to 9-4-0, Exterior(2) 9-4-0 to 13-10-0, Interior(1) 13-10-0 to 18-4-0, Exterior(2) 18-4-0 to 22-10-4, Interior(1) 22-10-4 to 28-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Provide adequate drainage to prevent water ponding.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Bearing at joint(s) 16, 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 16=451, 10=451.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

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Date:

September 5,2019

Job	Truss	Truss Type	Qty	Ply	GILMORE RES	T18043906
S1220	T5	PIGGYBACK BASE	24	1	Job Reference (optional)	

Duley Truss, Dunnellon, FL - 34430, 8.240 s Jul 14 2019 MiTek Industries, Inc. Thu Sep 5 13:42:53 2019 Page 1
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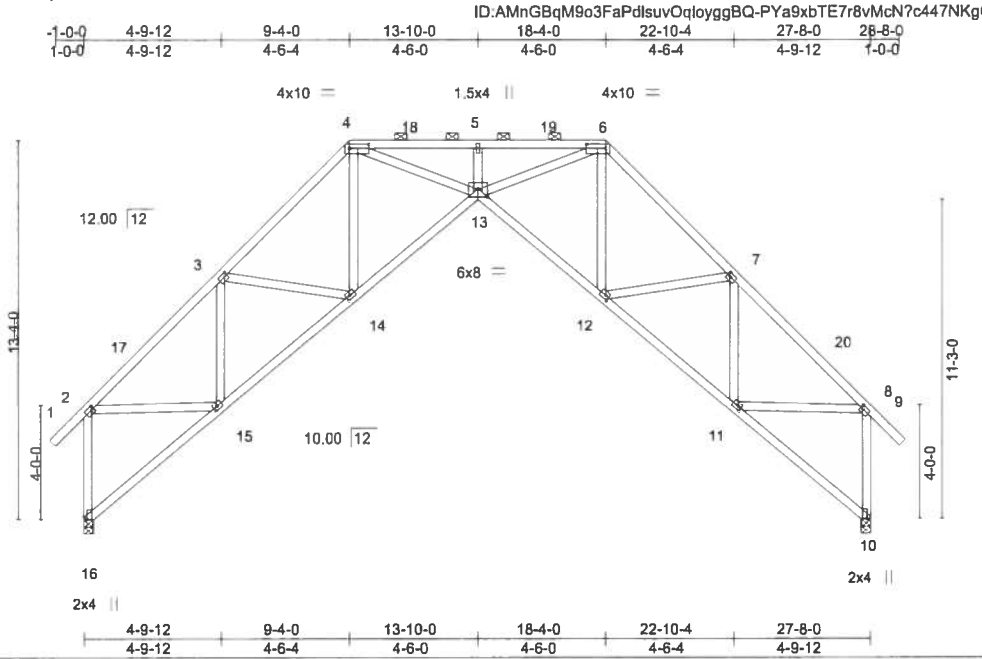

Plate Offsets (X,Y)– [2:0-1-0,0-1-8], [3:0-1-4,0-1-8], [4:0-8-4,0-1-12], [6:0-8-4,0-1-12], [7:0-1-4,0-1-8], [8:0-1-0,0-1-8], [10:0-0-13,0-1-8], [11:0-1-8,0-1-8], [12:0-1-8,0-1-8], [13:0-4-0,0-3-8], [14:0-1-8,0-1-8], [15:0-1-8,0-1-8], [16:0-0-13,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.54	Vert(LL)	0.29	13	>999	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.39	Vert(CT)	-0.45	13	>736	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.80	10	n/a	n/a		
BCDL	10.0	Code FRC2017/TPI2014		Matrix-MS							Weight: 193 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2D
BOT CHORD 2x4 SP No.2D
WEBS 2x4 SP No.3 *Except*
4-13,6-13: 2x4 SP No.2D

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-2-9 oc purlins, except end verticals, and 2-0-0 oc purlins (2-7-2 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 7-1-7 oc bracing.

REACTIONS. (lb/size) 16=1080/0-4-0, 10=1080/0-4-0
Max Horz 16=-606(LC 10)
Max Uplift 16=-451(LC 12), 10=-451(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
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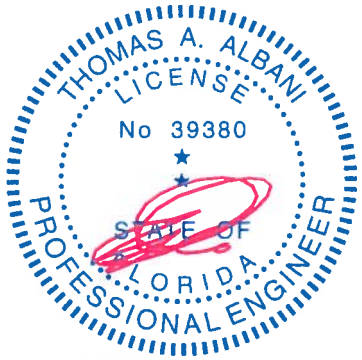
BOT CHORD 15-16=-780/735, 14-15=-786/1772, 13-14=-711/2061, 12-13=-468/1756, 11-12=-438/1345
WEBS 3-15=-681/269, 3-14=-174/343, 4-14=-273/265, 4-13=-1040/3529, 6-13=-1240/3780, 6-12=-333/326, 7-12=-240/460, 7-11=-679/290, 2-15=-252/928, 8-11=-265/913

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=140mph (3-second gust) Vasd=108mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=28ft; eave=4ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (directional) and C-C Exterior(2) -1-1-4 to 1-10-12, Interior(1) 1-10-12 to 9-4-0, Exterior(2) 9-4-0 to 13-10-0, Interior(1) 13-10-0 to 18-4-0, Exterior(2) 18-4-0 to 22-10-4, Interior(1) 22-10-4 to 28-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are 3x4 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Bearing at joint(s) 16, 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 16=451, 10=451.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



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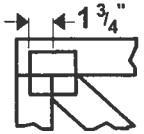
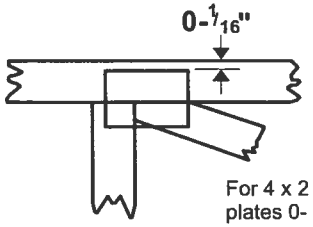
Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

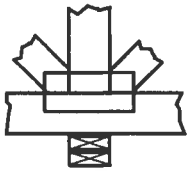
4 x 4

The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION

Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

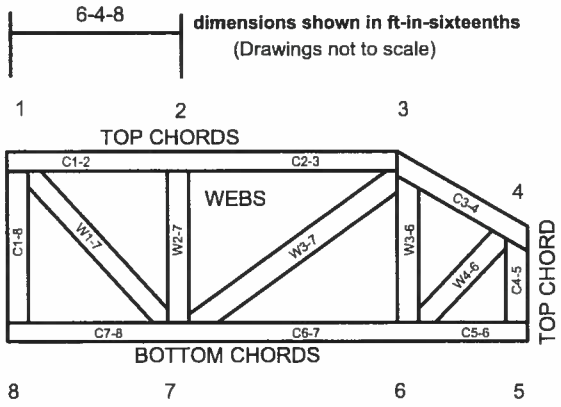


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

Quote # S1220
Order #

DULEY TRUSS INC.
(352) 465-0964

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P.O. Box 340 Dunnellon, FL 34430
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Fax: (352) 465-0463
duleytruss@bellsouth.net

Mailing Address:

GADCO
108 NW 1ST STREET
WILLISTON, FL 32696
Phone: (352) 426-2558
Fax: ( ) -

Contact:
Phone:
Email:

Job Delivery Address:

Name: GILMORE RES
Address:
,

P.O. Number:
Designer: Ryan Sherman

Quote # S1220 **Order #** **Printed:** 09/05/19

Bldg Code: FRC2017/TPI2014	Wind Des Method	Exposure Cat	Occupancy Cat	Velocity / TC Dead / BC Dead
Bldg Cat: Residential	MWFRS(Directional)/C-C hybrid Wind ASCE 7-10	C	II	140.000 / 4.200 / 6.000

ROOF TRUSSES

LOADING INFORMATION

TCLL-TCDL-BCLL-BCDL	STRESS INCR
20.0,7.0,0.0,10.0	1.25

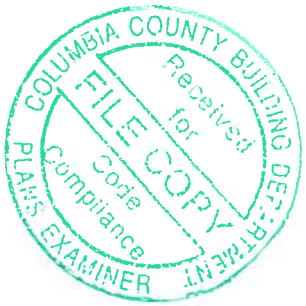
ROOF TRUSS SPACING: 24.0 IN. O.C. (TYP.)

PROFILE	QTY / PLY	TOP / BOT	ID	BASE / O/A	TOP / BOT	LEFT OH / RIGHT OH		REACTIONS					
	24	12.00 0.00	CAP1	07-10-06 07-10-06	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	1 425.3 -449.6 00-02-08 00-00-00	2 647.4 -556.0 00-06-13 00-03-06	6 224.8 0.0 04-06-00 00-03-06	4 574.0 -556.0 08-05-03 00-03-06	5 425.3 -357.5 08-09-08 00-00-00	
	2	10.00 0.00	CAP2	08-08-09 08-08-09	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	1 110.0 -126.1 00-02-12 00-00-00	2 208.5 -87.6 00-07-11 00-03-06	10 219.6 -146.0 03-00-00 00-03-06	9 97.6 0.0 05-00-00 00-03-06	8 218.4 -146.0 07-00-00 00-03-06	6 162.1 -87.6 09-04-05 00-03-06
	14	10.00 0.00	CAP3	08-08-09 08-08-09	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	1 374.6 -410.7 00-02-12 00-00-00	2 628.4 -513.2 00-07-11 00-03-06	6 252.7 0.0 05-00-00 00-03-06	4 576.7 -513.2 09-04-05 00-03-06	5 374.6 -340.5 09-09-04 00-00-00	
	2	12.00 0.00	CAP4	07-10-06 07-10-06	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	1 138.3 -149.2 00-02-08 00-00-00	2 183.6 -67.1 00-06-13 00-03-06	10 217.1 -169.3 02-06-00 00-03-06	9 96.7 0.0 04-06-00 00-03-06	8 215.4 -169.3 06-06-00 00-03-06	6 130.1 -45.8 08-05-03 00-03-06
	2	10.00 0.00	T1	33-08-00 33-08-00	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	37 447.5 -377.1 00-01-12 00-01-12	36 472.9 -315.0 01-10-00 00-01-12	35 149.2 -113.3 03-10-00 00-01-12	34 193.4 -120.3 05-10-00 00-01-12	33 177.9 -128.9 07-10-00 00-01-12	32 189.1 -109.0 09-10-00 00-01-12
	7	10.00 0.00	T2	33-08-00 33-08-00	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	14 1,313.3 -452.9 00-01-12 00-01-12	8 1,313.3 -452.9 33-06-04 00-01-12				
	7	10.00 0.00	T3	33-08-00 33-08-00	2 X 4 2 X 4		Jt High Low Loc-X Loc-Y	15 1,622.3 -293.4 00-01-12 00-01-12	10 1,622.3 -293.4 33-06-04 00-01-12				
	2	12.00 10.00	T4	27-08-00 27-08-00	2 X 4 2 X 4	01-00-00 01-00-00	Jt High Low Loc-X Loc-Y	16 1,080.3 -450.6 00-01-12 00-00-06	10 1,080.3 -450.6 27-06-04 00-00-06				
	24	12.00 10.00	T5	27-08-00 27-08-00	2 X 4 2 X 4	01-00-00 01-00-00	Jt High Low Loc-X Loc-Y	16 1,080.3 -450.6 00-01-12 00-00-06	10 1,080.3 -450.6 27-06-04 00-00-06				

JOB NO. **S1220**	Customer: GADCO Description: GILMORE RES Designer: Ryan Sherman	Pitch: --- Overhang: ---	PRODUCT APPROVAL NUMBER FL 2197.4 MT20 PLATES MITEK INDUSTRIES, INC.	DULEY TRUSS INC. (352) 465-0964

PROJECT SUMMARY

Short Desc:	MSN	**Description:**	Moonshine
Owner:			
Address1:	10089 US Hwy 27	**City:**	Ft White
Address2:		**State:**	FL
		Zip:	32113
Type:	Convention Center	**Class:**	New Finished building
Jurisdiction:	ALACHUA COUNTY, ALACHUA COUNTY, FL (111000)		
Conditioned Area:	2420 SF	**Conditioned & UnConditioned Area:**	2420 SF
No of Stories:	1	**Area entered from Plans**	2420 SF
Permit No:	0	**Max Tonnage**	4.7
		If different, write in:	_____
Building Rotation:	91 Deg Clockwise. Walls & windows will be rotated accordingly		



Compliance Summary

Component	Design	Criteria	Result
Gross Energy Cost (in $)	1,854.0	2,683.0	**PASSED**
LIGHTING CONTROLS			**PASSES**
EXTERNAL LIGHTING			**No Entry**
HVAC SYSTEM			**PASSES**
PLANT			**No Entry**
WATER HEATING SYSTEMS			**No Entry**
PIPING SYSTEMS			**No Entry**
Met all required compliance from Check List?			**Yes/No/NA**

IMPORTANT MESSAGE
Info 5009 -- -- -- An input report of this design building must be submitted along with this Compliance Report

Florida Building Code, Sixth Edition (2017) - Energy Conservation

EnergyGauge Summit® Fla/Com-2017, Effective Date: Dec 31, 2017

ASHRAE 90.1-2013 - Energy Cost Budget Option

Check List

Applications for compliance with the Florida Building Code, Energy Conservation shall include:

- ☐ This Checklist
- ☐ The full compliance report generated by the software that contains the project summary, compliance summary, certifications and detailed component compliance reports.
- ☐ The compliance report must include the full input report generated by the software as contigous part of the compliance report.
- ☐ Boxes appropriately checked in the Mandatory Section of the complaince report.

WARNING: INPUT REPORT NOT GENERATED.
To include input report in final submission, go to the Project Form, Settings Tab and check the box - "Append Input Report to Compliance Output Report"
Then rerun your calculation

CERTIFICATIONS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code

Prepared By: David Marrs Building Official: _____

Date: 8/22/19 Date: _____

I certify that this building is in compliance with the FLorida Energy Efficiency Code

Owner Agent: _____ Date: _____

If Required by Florida law, I hereby certify (*) that the system design is in compliance with the Florida Energy Efficiency Code

Architect: _____ Reg No: _____

Electrical Designer: _____ Reg No: _____

Lighting Designer: _____ Reg No: _____

Mechanical Designer: David Marrs Reg No: CAC1818215

Plumbing Designer: _____ Reg No: _____

(*) Signature is required where Florida Law requires design to be performed by registered design professionals. Typed names and registration numbers may be used where all relevant information is contained on signed/sealed plans.

Project: MSN
Title: Moonshine
Type: Convention Center
(WEA File: FL_GAINESVILLE_REGIONAL_AP.tm3)

Building End Uses

	1) Proposed	2) Baseline
Total	*119.00*	*172.40*
	$1,854	*$2,683*
ELECTRICITY(MBtu/kWh/$)	119.00	172.40
	34859	50532
	$1,854	*$2,683*
AREA LIGHTS	13.90	45.10
	4063	13208
	$216	*$701*
MISC EQUIPMT	35.90	35.90
	10528	10528
	$560	*$559*
PUMPS & MISC	0.10	0.10
	34	37
	$2	*$2*
SPACE COOL	34.50	43.40
	10107	12702
	$538	*$674*
SPACE HEAT	3.90	5.40
	1145	1594
	$61	*$85*
VENT FANS	30.70	42.50
	8982	12463
	$478	*$662*

Credits Applied: None
Passing Criteria = 2683
Design (including any credits) = 1854
Passing requires Proposed Building cost to be at most 100% of Baseline cost. This Proposed Building is at 69.1%

PASSES

External Lighting Compliance

Description	Category	Tradable?	Allowance (W/Unit)	Area or Length or No. of Units (Sqft or ft)	ELPA (W)	CLP (W)

None

Project: MSN
Title: Moonshine
Type: Convention Center
(WEA File: FL_GAINESVILLE_REGIONAL_AP.tm3)

Lighting Controls Compliance

Acronym	Ashrae ID	Description	Area (sq.ft)	Design CP	Min CP	Compli-ance
Pr0Zo1Sp1	15	Conference/meeting (Multiple Functions)	1.400	3	1	PASSES
Pr0Zo2Sp1	25.001	Sales Area	1.020	10	1	PASSES

PASSES

Project: MSN
Title: Moonshine
Type: Convention Center
(WEA File: FL_GAINESVILLE_REGIONAL_AP.tm3)

System Report Compliance

Pr0Sy1 **System 1** **Constant Volume Air Cooled Split System < 65000 Btu/hr** **No. of Units 1**

Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp-liance
Cooling System	Air Conditioners Air Cooled Split System < 65000 Btu/h Cooling Capacity	56500	14.00	13.00	8.00		PASSES
Heating System	Heat Pumps Air Cooled (Heating Mode) Split System < 65000 Btu/h Cooling Capacity	59000	8.20	8.20			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	2000	0.80	0.82			PASSES

Pr0Sy2 **System 2** **Constant Volume Air Cooled Split System < 65000 Btu/hr** **No. of Units 1**

Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp-liance
Cooling System	Air Conditioners Air Cooled Split System < 65000 Btu/h Cooling Capacity	39000	14.00	13.00	8.00		PASSES
Heating System	Heat Pumps Air Cooled (Heating Mode) Split System < 65000 Btu/h Cooling Capacity	40000	8.20	8.20			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	1300	0.80	0.82			PASSES

PASSES

Plant Compliance

Description	Installed No	Size	Design Eff	Min Eff	Design IPLV	Min IPLV	Category	Compliance
None								

Water Heater Compliance

Description	Type	Category	Design Eff	Min Eff	Design Loss	Max Loss	Compliance
None							

Piping System Compliance

Category	Pipe Dia [inches]	Is Runout?	Operating Temp [F]	Ins Cond [Btu-in/hr .SF.F]	Ins Thick [in]	Req Ins Thick [in]	Compliance
None							

Mandatory Requirements (as applicable)

Mandatory requirements compiled by US Department of Energy and Pacific Northwest National Laboratory. Adopted with permission

Topic	Section	Component	Description	Yes	N/A	Exempt
1. To be checked by Designer or Engineer						
Insulation	5.8.1.2	Envelope	Below-grade wall insulation installed per manufacturerâ€™s instructions.	☐	☐	☐
Insulation	5.8.1.2	Envelope	Slab edge insulation installed per manufacturerâ€™s instructions.	☐	☐	☐
Insulation	5.5.3.5	Envelope	Slab edge insulation depth/length.	☐	☐	☐
Insulation	6.4.4.1.5	Envelope	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	☐	☐	☐
Fenestration	5.5.3.6	Envelope	U-factor of opaque doors associated with the building thermal envelope meets requirements.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.1, 6.5.1.1, 6.5.1.3, 6.5.1.4	Mechanical	Air economizers provided where required (and not exempted), meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.1, 6.5.1.2, 6.5.1.3	Mechanical	Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.1.5	Mechanical	Economizer operation will not increase heating energy use during normal operation.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.2.2.1	Mechanical	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.2.2.3	Mechanical	Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.1.6	Mechanical	Water economizer specified on hydronic cooling and humidification systems designed to maintain inside humidity at >35 Â°F dewpoint if an economizer is required.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.1.1	Mechanical	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.1.2	Mechanical	HVAC fan motors not larger than the first available motor size greater than the bhp.	☐	☐	☐
HVAC	6.5.6.1	Mechanical	Exhaust air energy recovery on systems meeting Tables 6.5.6.1-1, and 6.5.6.1-2.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.2	Mechanical	Service water heating equipment meets efficiency requirements.	☐	☐	☐
SYSTEM_SPECIFIC	7.5.2	Mechanical	Service water heating equipment used for space heating complies with the service water heating equipment requirements.	☐	☐	☐
Insulation	5.8.1.2	Envelope	Above-grade wall insulation installed per manufacturerâ€™s instructions.	☐	☐	☐
Insulation	5.8.1.2	Envelope	Floor insulation installed per manufacturerâ€™s instructions.	☐	☐	☐
Controls	10.4.3	Mechanical	Elevators are designed with the proper lighting, ventilation power, and standby mode.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7a	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐	☐	☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7b	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐	☐	☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7c	Mechanical	Heat Rejection Equipment: Minimum Efficiency RequirementTable 6.8.1-7	☐	☐	☐

SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7d	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐ ☐ ☐
SYSTEM_SPECIFIC	6.5.5.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity >= 1100 gpm meets minimum efficiency requirement: Table 6.8.1-7	☐ ☐ ☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7e	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐ ☐ ☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7f	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐ ☐ ☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7g	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7.	☐ ☐ ☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7h	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐ ☐ ☐
SYSTEM_SPECIFIC	6.4.1.1, 6.8.1-7i	Mechanical	Heat Rejection Equipment: Minimum Efficiency Requirement Table 6.8.1-7	☐ ☐ ☐
SYSTEM_SPECIFIC	7.5.3	Mechanical	Gas-fired water-heating equipment installed in new buildings: where a singular piece of water-heating equipment >= 1,000 kBtu/h serves the entire building, thermal efficiency must be >= 90 Et Where multiple pieces of water-heating equipment serve the building with combined rating is >= 1,000 kBtu/h, the combined input-capacity-weighted-average thermal efficiency , thermal efficiency must be >= 90 Et Exclude input rating of equipment in individual dwelling units and equipment <= 100 kBtu/h.	☐ ☐ ☐

2. To be checked by Plan Reviewer

Plan Review	4.2.2, 5.4.3.1.1, 5.7	Envelope	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐ ☐ ☐
Plan Review	4.2.2, 6.4.4.2.1, 6.7.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐ ☐ ☐
Plan Review	4.2.2, 7.7.1, 10.4.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	☐ ☐ ☐
Plan Review	4.2.2, 8.4.1.1, 8.4.1.2, 8.7	Project	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	☐ ☐ ☐
Plan Review	4.2.2, 9.4.3, 9.7	Interior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ ☐ ☐
Plan Review	9.7	Exterior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ ☐ ☐

Insulation	5.8.1.7.3	Envelope	Insulation in contact with the ground has <=0.3% water absorption rate per ASTM C272.	☐	☐	☐
Air Leakage	5.4.3.4	Envelope	Vestibules are installed where building entrances separate conditioned space from the exterior, and meet exterior envelope requirements. Doors have self-closing devices, and are >=7 ft apart (>= 16 ft apart for adjoinging floor area >= 40000 sq.ft.). Vestibule floor area <=7 50 sq.ft. or 2 percent of the adjoining conditioned floor area.	☐	☐	☐
HVAC	6.4.3.4.4	Mechanical	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.	☐	☐	☐
HVAC	6.4.3.8	Mechanical	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐	☐	☐
HVAC	6.4.4.1.4	Mechanical	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐	☐	☐
HVAC	6.5.2.3	Mechanical	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.1.3	Mechanical	Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation <= 15% of maximum total efficiency of the fan.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.5	Mechanical	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.3.10	Mechanical	DDC system installed and capable of providing control logic including monitoring zone and system demand for fan pressure, pump pressure, heating, and cooling; transferring zone and system demand information from zones to air distribution system controllers and from air distribution systems to heating and cooling plant controllers; automatically detecting and alerting system operator when zones and systems excessively drive the reset logic; allow operator removal of zone(s) from the reset algorithm; AND capable of trending and graphically displaying input and output points.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.2.3	Mechanical	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure. Controls provide: zone damper monitoring or indicator of static pressure need, autodetection, alarm, and operator override of zones excessively triggering reset logic.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.3	Mechanical	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.4	Mechanical	Multiple zone HVAC systems have supply air temperature reset controls.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.4.1	Mechanical	System turndown requirement met through multiple single-input boilers, one or more modulating boilers, or a combination of single-input and modulating boilers. Boiler input between 1.0 MBtu/h and 5 MBtu/h has 3:1 turndown ratio, boiler input between 5.0 MBtu/h and 10 MBtu/h has 4:1 turndown ratio, boiler input > 10.0 MBtu/h has 5:1 turndown ratio.	☐	☐	☐
HVAC	6.5.4.2	Mechanical	HVAC pumping systems >10 hp designed for variable fluid flow.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.4.3, 6.5.4.3.1, 6.5.4.3.2	Mechanical	Fluid flow shutdown in pumping systems to multiple chillers or boilers when systems are shut down.	☐	☐	☐

SYSTEM_SPECIFIC	6.5.4.4	Mechanical	Temperature reset by representative building loads in pumping systems >10 hp for chiller and boiler systems >300,000 Btu/h.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.4.5.2	Mechanical	Hydronic heat pumps and water-cooled unitary air conditioners with pump systems >5 hp have controls or devices to reduce pump motor demand.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.4.6	Mechanical	Chilled-water and condenser water piping sized according to design flow rate and total annual hours of operation (Table 6.5.4.6).	☐	☐	☐
SYSTEM_SPECIFIC	6.5.5.2.1	Mechanical	Fan systems with motors >=7.5 hp associated with heat rejection equipment to have capability to operate at 2/3 of full-speed and auto speed controls to control the leaving fluid temperature or condensing temp/pressure of heat rejection device.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.5.2.2	Mechanical	Multicell heat rejection equipment with variable-speed fan drives installed that operate the maximum number of fans allowed that comply with manufacturers specs and control all fans to the same fan speed required for the instantaneous cooling duty.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.5.2.3	Mechanical	NA	☐	☐	☐
HVAC	6.5.7.1.1	Mechanical	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.	☐	☐	☐
HVAC	6.5.7.1.1	Mechanical	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.7.1.2	Mechanical	Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.7.1.3	Mechanical	Kitchen hoods with a total exhaust airflow rate >5000 cfm meet replacement air, ventilation system, or energy recovery requirements shown in Table 6.5.7.1.3.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.7.1.4	Mechanical	Kitchen hoods with a total exhaust airflow rate >5000 cfm meet replacement air, ventilation system, or energy recovery requirements.	☐	☐	☐
HVAC	6.5.7.2	Mechanical	Fume hoods exhaust systems >=5,000 cfm have VAV hood exhaust and supply systems, direct make-up air or heat recovery.	☐	☐	☐
HVAC	6.5.8.1	Mechanical	Unenclosed spaces that are heated use only radiant heat.	☐	☐	☐
SYSTEM_SPECIFIC	7.5.1	Mechanical	Combined space and water heating system not allowed unless standby loss less than calculated maximum. AHJ has approved or combined connected load <150 kBtu/h.	☐	☐	☐
Controls	8.4.2	Project	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐	☐	☐
Other Equipment	10.4.1	Mechanical	Electric motors meet requirements where applicable.	☐	☐	☐
HVAC	6.4.3.3.2	Mechanical	Setback controls allow automatic restart and temporary operation as required for maintenance.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.3.3.3	Mechanical	Systems with setback controls and DDC include optimum start controls. Optimum start algorithm considers mass radiant slab floor temperature.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.3.3.4	Mechanical	Zone isolation devices and controls.	☐	☐	☐
Wattage	9.4.2	Exterior Lighting	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐	☐	☐

3. To be checked by Inspector

Insulation	5.8.1.7	Envelope	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐	☐	☐
HVAC	6.4.3.7	Mechanical	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐	☐	☐
Air Leakage	5.4.3.1	Envelope	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semiheated spaces in climate zones 1-6.	☐	☐	☐
Air Leakage	5.4.3.2	Envelope	Factory-built and site-assembled fenestration and doors are labeled or certified as meeting air leakage requirements.	☐	☐	☐
Fenestration	5.8.2.1, 5.8.2.3, 5.8.2.4, 5.8.2.5	Envelope	Fenestration products rated (U-factor, SHGC, and VT) in accordance with NFRC or energy code defaults are used.	☐	☐	☐
Fenestration	5.8.2.2	Envelope	Fenestration and door products are labeled, or a signed and dated certificate listing the U-factor, SHGC, VT, and air leakage rate has been provided by the manufacturer.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.4.1	Mechanical	Temperature controls installed on service water heating systems (<=120Â°F to maximum temperature for intended use).	☐	☐	☐
SYSTEM_SPECIFIC	7.4.4.2	Mechanical	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.6	Mechanical	Heat traps installed on non-circulating storage water tanks.	☐	☐	☐
HVAC	6.4.1.4, 6.4.1.5	Mechanical	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.1.5.2	Mechanical	PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only.	☐	☐	☐
HVAC	6.4.3.4.1	Mechanical	Stair and elevator shaft vents have motorized dampers that automatically close.	☐	☐	☐
HVAC	6.4.3.4.2, 6.4.3.4.3	Mechanical	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.	☐	☐	☐
HVAC	6.4.3.4.5	Mechanical	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐	☐	☐
HVAC	6.5.3.2.1	Mechanical	DX cooling systems >= 75 kBtu/h (>= 65 kBtu/h effective 1/2016) and chilled-water and evaporative cooling fan motor hp >= Â¼ designed to vary indoor fan airflow as a function of load and comply with operational requirements.	☐	☐	☐
HVAC	6.4.4.1.1	Mechanical	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.	☐	☐	☐
HVAC	6.4.4.1.2	Mechanical	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	☐	☐	☐
HVAC	6.4.4.1.3	Mechanical	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐	☐	☐
HVAC	6.4.4.2.1	Mechanical	Ducts and plenums sealed based on static pressure and location.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.4.2.2	Mechanical	Ductwork operating >3 in. water column requires air leakage testing.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.2.1	Mechanical	Zone controls can limit simultaneous heating and cooling and sequence heating and cooling to each zone.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.2.2.2	Mechanical	Two-pipe hydronic systems using a common distribution system have controls to allow a deadband >=15 Â°F, allow operation in one mode for at least 4 hrs before changeover, and have rest controls to limit heating and cooling supply temperature to <=30 Â°F.	☐	☐	☐

HVAC	6.5.2.4.1	Mechanical	Humidifiers with airstream mounted preheating jackets have preheat auto-shutoff value set to activate when humidification is not required.	☐	☐	☐
HVAC	6.5.2.4.2	Mechanical	Humidification system dispersion tube hot surfaces in the airstreams of ducts or air-handling units insulated >= R-0.5.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.3.2.2	Mechanical	VAV fans have static pressure sensors positioned so setpoint <=1.2 in. w.c. design pressure.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.4.5.1	Mechanical	Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system >10 hp is off.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.6.2	Mechanical	Condenser heat recovery system that can heat water to 85 Â°F or provide 60% of peak heat rejection is installed for preheating of service hot water.	☐	☐	☐
HVAC	6.5.7.1.5	Mechanical	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.	☐	☐	☐
SYSTEM_SPECIFIC	6.5.9	Mechanical	Hot gas bypass limited to: <=240 kBtu/h â€“ 15% >240 kBtu/h â€“ 10%	☐	☐	☐
HVAC	6.4.3.9	Mechanical	Heating for vestibules and air curtains include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating systems controlled by a thermostat in the vestibule with setpoint <= 60F.	☐	☐	☐
Controls	6.5.10	Mechanical	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.	☐	☐	☐
Controls	9.4.1.1	Interior Lighting	Automatic control requirements prescribed in Table 9.6.1, for the appropriate space type, are installed. Mandatory lighting controls (labeled as 'REQ') and optional choice controls (labeled as 'ADD1' and 'ADD2') are implemented.	☐	☐	☐
Controls	9.4.1.1	Interior Lighting	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	☐	☐	☐
Controls	9.4.1.2	Interior Lighting	Parking garage lighting is equipped with required lighting controls and daylight transition zone lighting.	☐	☐	☐
Controls	9.4.1.1f	Interior Lighting	Daylight areas under skylights and roof monitors that have more than 150 W combined input power for general lighting are controlled by photocontrols.	☐	☐	☐
Controls	9.4.1.4	Exterior Lighting	Automatic lighting controls for exterior lighting installed.	☐	☐	☐
Controls	9.4.1.3	Interior Lighting	Separate lighting control devices for specific uses installed per approved lighting plans.	☐	☐	☐
Wattage	9.6.2	Interior Lighting	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐	☐	☐
Wattage	9.6.4	Interior Lighting	Where space LPD requirements are adjusted based on room cavity ratios, dimensions are consistent with approved plans.	☐	☐	☐
Insulation	5.5.3.1	Envelope	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	☐	☐	☐
Insulation	5.8.1.2, 5.8.1.3	Envelope	Roof insulation installed per manufacturerâ€™s instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐	☐	☐
Insulation	5.8.1.1	Envelope	Building envelope insulation is labeled with R-value or insulation certificate has been provided listing R-value and other relevant data.	☐	☐	☐
Insulation	5.8.1.9	Envelope	Building envelope insulation extends over the full area of the component at the proposed rated R or U value.	☐	☐	☐
Insulation	5.8.1.4	Envelope	Eaves are baffled to deflect air to above the insulation.	☐	☐	☐
Insulation	5.8.1.5	Envelope	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditional space.	☐	☐	☐

Insulation	5.8.1.6	Envelope	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.	☐	☐	☐
Insulation	5.8.1.7.1	Envelope	Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access.	☐	☐	☐
Insulation	5.8.1.7.2	Envelope	Foundation vents do not interfere with insulation.	☐	☐	☐
Insulation	5.8.1.8	Envelope	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.3.1.1	Mechanical	Heating and cooling to each zone is controlled by a thermostat control.	☐	☐	☐
HVAC	6.4.3.1.2	Mechanical	Thermostatic controls have a 5 Â°F deadband.	☐	☐	☐
HVAC	6.4.3.2	Mechanical	Temperature controls have setpoint overlap restrictions.	☐	☐	☐
HVAC	6.4.3.3.1	Mechanical	HVAC systems equipped with at least one automatic shutdown control.	☐	☐	☐
SYSTEM_SPECIFIC	6.4.3.5	Mechanical	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	☐	☐	☐
HVAC	6.4.3.6	Mechanical	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited. Humidity control prohibits the use of fossil fuel or electricity to produce RH > 30% in the warmest zone humidified and RH < 60% in the coldest zone dehumidified.	☐	☐	☐
HVAC	6.4.3.6	Mechanical	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited. Humidity control prohibits the use of fossil fuel or electricity to produce RH > 30% in the warmest zone humidified and RH < 60% in the coldest zone dehumidified.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.4.3	Mechanical	Public lavatory faucet water temperature <= 110Â °F.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.4.4	Mechanical	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.5.1	Mechanical	Pool heaters are equipped with on/off switch and no continuously burning pilot light.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.5.2	Mechanical	Pool covers are provided for heated pools and pools heated to >90Â°F have a cover >=R-12.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.5.3	Mechanical	Time switches are installed on all pool heaters and pumps.	☐	☐	☐
Wattage	9.2.2.3	Interior Lighting	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐	☐	☐
SYSTEM_SPECIFIC	7.4.3	Mechanical	All piping in circulating system insulated	☐	☐	☐
SYSTEM_SPECIFIC	7.4.3	Mechanical	First 8 ft of outlet piping is insulated	☐	☐	☐
SYSTEM_SPECIFIC	7.4.3	Mechanical	All heat traced or externally heated piping insulated	☐	☐	☐

4. To be checked by Inspector at Project Completion and Prior to Issuance of Certificate of Occupancy

Plan Review	6.7.2.4	Mechanical	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	☐	☐	☐
Plan Review	6.7.2.4	Mechanical	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	☐	☐	☐
Post Construction	6.7.2.1	Mechanical	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐	☐	☐

Post Construction	6.7.2.2	Mechanical	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐	☐	☐
Post Construction	6.7.2.3	Mechanical	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	☐	☐	☐
HVAC	6.7.2.4	Mechanical	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐	☐	☐
Post Construction	8.7.1	Interior Lighting	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	☐	☐	☐
Post Construction	8.7.2	Interior Lighting	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐	☐	☐

Project Information

For: Moonshine

		Htg	Clg			Htg	Clg
Outside db	(°F)	33	92	Inside db	(°F)	70	72
Outside RH	(%)	-	51	Inside RH	(%)	-	50
Outside wb	(°F)	-	77	Inside wb	(°F)	-	60
Daily range	(°F)	-	18	Design TD	(°F)	37	20
Moisture diff.	(gr/lb)	-	59				

Heating Equipment

Make	Goodman Mfg.	
Model	GSZ140601K	
Type	Split ASHP	
Efficiency	8.5 HSPF	
Heating Input		
Heating Output	59.0	MBtuh @47°F
Humidifier	13.2	gpd
Leaving Air Temp	98.7	°F
Actual Heating Fan	1883	cfm

Cooling Equipment

Make	Goodman Mfg.	
Model	GSZ140601K	
Type	Split ASHP	
COP / EER / SEER	14.0	
Sensible Cooling	39.5	MBtuh
Latent Cooling	16.9	MBtuh
Total Cooling	56.5	MBtuh
Leaving Air Temp	55.0	°F
Actual Cooling Fan	1883	cfm

Equipment Location	Unit 1	
System Type	PEAKCV	
Fan Motor Heat Type	PACKAGE	
Fan & Motor Combined Efficiency	0	%
Static Pressure Across Fan	0	in H2O

NAME	Area ft²	Heat Loss	Sensible Gain	Latent Gain	Htg cfm	Clg cfm	Time
Gathering rm	1400	30447	36226	16043	1883	1883	Aug 1800 LDT
Unit 1	1400	30447	36226	16043	1883	1883	Aug 1800 LDT

Project Information

For: Moonshine

Zone: Unit 1

COOLING LOAD

1.	**DESIGN CONDITIONS**	at Aug 1800 LDT	Peak load at Aug 1800 LDT		
	Inside: 72 °F	Outside: 92 °F	TD: 20 °F		
	RH: 51 %	MoistDiff: 58.8 gr/lb	Mult: 1.0	Ins.wb	60 °F
				Sensible	Latent
2.	**SOLAR RADIATION THROUGH GLASS**			9442	-
3.	**TRANSMISSION GAINS**	Sensible		9446	-
	Walls:	2650		-	-
	Glass:	3251		-	-
	Doors:	0		-	-
	Partitions:	0		-	-
	Floors:	0		-	-
	Ceilings:	3545		-	-
4.	**INTERNAL HEAT GAIN**	Sensible	Latent	12421	7140
	Occupants:	7140	7140	-	-
	Lights:	5281	-	-	-
	Motors:	0	-	-	-
	Appliances:	0	0	-	-
5.	**INFILTRATION:**	Outside air cfm:	0	0	0
6.	**SUBTOTAL:** Space load	Sensible	Latent	31309	7140
	Envelope	31309	7140	-	-
	Less external	0	-	-	-
	Redistribution	0	0	-	-
7.	**SUPPLY DUCT**			0	-
8.	**SUBTOTAL:** Space load + supply duct			31309	-
	Actual cfm:	1883 at supply TD:	17	-	-
9.	**VENTILATION:**	Make-up air cfm:	224	4917	8903
10.	**RETURN AIR LOAD:**	Lighting + plenum (net)		0	-
11.	**RETURN DUCT**			0	-
12.	**TOTAL LOADS ON EQUIPMENT**			36226	16043

HEATING LOAD

13.	**DESIGN CONDITIONS**		Mult: 1.0	
	Inside: 70 °F	Outside: 33 °F	TD: 37 °F	
14.	**TRANSMISSION LOSSES**			13749
	Walls:	2484		-
	Glass:	6329		-
	Doors:	0		-
	Partitions:	0		-
	Floors:	3185		-
	Ceilings:	1751		-
15.	**INFILTRATION:**	Outside air cfm:	70	2802
16.	**SUBTOTAL:** Space load			16551
	Envelope	16551		-
	Less external	0		-
	Less transfer	0		-
	Redistribution	0		-
17.	**SUPPLY DUCT:**			0
18.	**VENTILATION:**	Make-up air cfm:	224	8965
19.	**HUMIDIFICATION**			4931
	Piping			0
20.	**RETURN DUCT**			0
21.	**TOTAL HEATING LOAD ON EQUIPMENT**			30447

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Duct System Summary
Unit 1

Job: Moonshine
Date: Aug 22, 2019
By: DJM

Project Information

For: Moonshine

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.378 / 0.122 in H2O	0.378 / 0.122 in H2O
Lowest friction rate	0.310 in/100ft	0.310 in/100ft
Actual air flow	1883 cfm	1883 cfm
Total effective length (TEL)	162 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Gathering rm	c 4473	269	269	0.311	10.0	0x 0	VlFx	31.4	90.0	st1
Gathering rm-A	c 4473	269	269	0.320	10.0	0x 0	VlFx	28.2	90.0	st1
Gathering rm-B	c 4473	269	269	0.310	10.0	0x 0	VlFx	32.0	90.0	st1
Gathering rm-D	c 4473	269	269	0.322	10.0	0x 0	VlFx	27.3	90.0	st1
Gathering rm-E	c 4473	269	269	0.331	10.0	0x 0	VlFx	24.2	90.0	st2
Gathering rm-F	c 4473	269	269	0.337	10.0	0x 0	VlFx	22.0	90.0	st2
Gathering rm-G	c 4473	269	269	0.325	10.0	0x 0	VlFx	26.2	90.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	1076	1076	0.310	493	20.0	0 x 0	VinlFlx	
st2	Peak AVF	807	807	0.325	578	16.0	0 x 0	VinlFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb2	0x 0	807	807	39.5	0.310	578	16.0	0x 0		VlFx	
rb5	0x 0	1076	1076	39.1	0.313	493	20.0	0x 0		VlFx	

Project Information

For: Moonshine

Zone: Unit 2

COOLING LOAD

1.	**DESIGN CONDITIONS**	at Aug 1800 LDT		Peak load at Sep 1600 LDT		
	Inside: 72 °F	Outside: 92 °F		TD: 20 °F		
	RH: 51 %	MoistDiff: 58.8 gr/lb		Mult: 1.0	lns.wb	60 °F
					Sensible	Latent
2.	**SOLAR RADIATION THROUGH GLASS**				5516	-
3.	**TRANSMISSION GAINS**	Sensible			8713	-
	Walls:	3753			-	-
	Glass:	2177			-	-
	Doors:	201			-	-
	Partitions:	0			-	-
	Floors:	0			-	-
	Ceilings:	2583			-	-
4.	**INTERNAL HEAT GAIN**	Sensible		Latent	9049	5202
	Occupants:	5202		5202	-	-
	Lights:	3847		-	-	-
	Motors:	0		-	-	-
	Appliances:	0		0	-	-
5.	**INFILTRATION:**	Outside air cfm:		0	0	0
6.	**SUBTOTAL:** Space load	Sensible		Latent	23279	5202
	Envelope	23279		5202	-	-
	Less external	0		-	-	-
	Redistribution	0		0	-	-
7.	**SUPPLY DUCT**				0	-
8.	**SUBTOTAL:** Space load + supply duct				23279	-
	Actual cfm:	1300 at supply TD:		17	-	-
9.	**VENTILATION:**	Make-up air cfm:		163	3582	6487
10.	**RETURN AIR LOAD:**	Lighting + plenum (net)			0	-
11.	**RETURN DUCT**				0	-
12.	**TOTAL LOADS ON EQUIPMENT**				26861	11689

HEATING LOAD

13.	**DESIGN CONDITIONS**		Mult:	1.0	
	Inside: 70 °F	Outside: 33 °F	TD:	37 °F	
14.	**TRANSMISSION LOSSES**			14413	
	Walls:	3875		-	
	Glass:	4237		-	
	Doors:	391		-	
	Partitions:	0		-	
	Floors:	4633		-	
	Ceilings:	1276		-	
15.	**INFILTRATION:**	Outside air cfm:	51	2041	
16.	**SUBTOTAL:** Space load			16454	
	Envelope	16454		-	
	Less external	0		-	
	Less transfer	0		-	
	Redistribution	0		-	
17.	**SUPPLY DUCT:**			0	
18.	**VENTILATION:**	Make-up air cfm:	163	6532	
19.	**HUMIDIFICATION**			3593	
	Piping			0	
20.	**RETURN DUCT**			0	
21.	**TOTAL HEATING LOAD ON EQUIPMENT**			26578	

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Duct System Summary
Unit 2

Job: Moonshine
Date: Aug 22, 2019
By: DJM

Project Information

For: Moonshine

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.312 / 0.188 in H2O	0.312 / 0.188 in H2O
Lowest friction rate	0.222 in/100ft	0.222 in/100ft
Actual air flow	1300 cfm	1300 cfm
Total effective length (TEL)	225 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
HC RR	c	1262	65	67	0.279	5.0	0x 0	VlFx	21.7	90.0	st3
Laundry	h	1484	117	100	0.305	6.0	0x 0	VlFx	12.2	90.0	st3
Mech	c	633	14	33	0.313	4.0	0x 0	VlFx	9.6	90.0	st3
Office	c	4909	224	259	0.222	9.0	0x 0	VlFx	50.6	90.0	st4
RR 1	c	1310	63	69	0.300	5.0	0x 0	VlFx	14.0	90.0	st3
RR 2	h	1786	141	96	0.298	7.0	0x 0	VlFx	14.5	90.0	st3
RR 3	h	1885	149	94	0.279	7.0	0x 0	VlFx	21.9	90.0	st3
Store	c	5524	263	291	0.237	10.0	0x 0	VlFx	41.8	90.0	st4
Store-B	c	5524	263	291	0.242	10.0	0x 0	VlFx	38.7	90.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	550	459	0.279	514	14.0	0 x 0	VinlFlx	
st4	Peak AVF	750	841	0.222	476	18.0	0 x 0	VinlFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	998	939	84.2	0.223	565	18.0	0x 0		VlFx	rt1
rb3	0x 0	302	361	84.8	0.222	460	12.0	0x 0		VlFx	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	1300	1300	0.222	596	20.0	0 x 0	VinlFlx	

Product Approval
USER: Public User

FL #	FL15225-R4
Application Type	Revision
Code Version	2017
Application Status	Approved
	*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	
Product Manufacturer	Therma-Tru Corporation
Address/Phone/Email	118 Industrial Drive Edgerton, OH 43517 (419) 298-1740 rickw@rwbldgconsultants.com
Authorized Signature	Vivian Wright rickw@rwbldgconsultants.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	
Address/Phone/Email	
Category	Exterior Doors
Subcategory	Swinging Exterior Door Assemblies
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute
Validated By	Ryan J. King, P.E.
	Validation Checklist - Hardcopy Received

Referenced Standard and Year (of Standard)

Standard	Year
101/I.S.2	1997
ASTM E1886	2002
ASTM E1996	2002
ASTM E330	2002
TAS 201, 202, 203	1994

Equivalence of Product Standards Certified By	Florida Licensed Professional Engineer or Architect FL15225_R4_Equiv_(a)_Equivalency_of_Standards.pdf
Product Approval Method	Method 1 Option A

Date Submitted	09/21/2017
Date Validated	12/20/2017
Date Pending FBC Approval	
Date Approved	12/22/2017

Summary of Products

FL #	Model, Number or Name	Description
15225.1	a. "Classic-Craft" and "Benchmark by Therma-Tru"	6/8 and 8/0 Opaque and Glazed Fiberglass Door with and without Sidelites. Inswing and Outswing
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** N/A **Other:** See INST 15225.1-68 (6'8 Door Products), INST 15225.1-80 (8'0 Door Products) and INST 15225-68M (6'8 Door Products Direct to Masonry) for installation instructions. (Note - Glazing Shall comply with ASTM E1300-04)		**Certification Agency Certificate** FL15225_R4_C_CAC_15225.1 NAMI certs.pdf **Quality Assurance Contract Expiration Date** 12/31/2021 **Installation Instructions** FL15225_R4_II_(a)_Inst 15225.1-68.pdf FL15225_R4_II_(a)_Inst 15225.1-80.pdf FL15225_R4_II_(a)_Inst 15225-68M.pdf FL15225_R4_II_FL-15225.1 Glazing Det..pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes **Evaluation Reports** FL15225_R4_AE_(a)_Eval 15225.1-68.pdf FL15225_R4_AE_(a)_Eval 15225.1-80.pdf FL15225_R4_AE_(a)_Eval 15225-68M.pdf Created by Independent Third Party: Yes
15225.2	b. "Construction Series" and "Benchmark by Therma-Tru"	6/8 Opaque Steel Door with and without Sidelites. Inswing and Outswing
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** N/A **Other:** See INST 15225.2-68 (6'8 Door Products) and INST 15225-68M (6'8 Door Products Direct to Masonry) for installation instructions. (Note - Glazing Shall comply with ASTM E1300-04)		**Certification Agency Certificate** FL15225_R4_C_CAC_15225.2 NAMI certs.pdf **Quality Assurance Contract Expiration Date** 12/31/2021 **Installation Instructions** FL15225_R4_II_(a)_Inst 15225.2-68.pdf FL15225_R4_II_(a)_Inst FL-15225-68MA.pdf FL15225_R4_II_FL-15225.2 Glazing Det..pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes **Evaluation Reports** FL15225_R4_AE_(a)_Eval 15225.2-68.pdf FL15225_R4_AE_(a)_FL-15225-68MA.pdf Created by Independent Third Party: Yes
15225.3	c. "Fiber-Classic" and "Benchmark by Therma-Tru"	6/8 and 8/0 Opaque and Glazed Fiberglass Door with and without Sidelites. Inswing and Outswing
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** N/A **Other:** See INST 15225.3-68 (6'8 Door Products), INST 15225.3-80 (8'0 Door Products) and INST 15225-68M (6'8 Door Products Direct to Masonry) for installation instructions. Note - Glazing Shall comply with ASTM E1300-04. (This product approval requires the use of "J" part number doors and sidelites, which have been stained or painted within 6 months of installation - Excludes Opaque Benchmark Door Panels.)		**Certification Agency Certificate** FL15225_R4_C_CAC_15225.3 NAMI certs.pdf **Quality Assurance Contract Expiration Date** 12/31/2021 **Installation Instructions** FL15225_R4_II_(a)_Inst 15225.3-68.pdf FL15225_R4_II_(a)_Inst 15225.3-80.pdf FL15225_R4_II_(a)_Inst 15225-68M.pdf FL15225_R4_II_FL-15225.3 Glazing Det..pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes **Evaluation Reports** FL15225_R4_AE_(a)_Eval 15225.3-68.pdf FL15225_R4_AE_(a)_Eval 15225.3-80.pdf FL15225_R4_AE_(a)_Eval 15225-68M.pdf Created by Independent Third Party: Yes
15225.4	d. "Premium Series" and "Benchmark by Therma-Tru"	6/8 and 8/0 Opaque Steel Door with and without Sidelites. Inswing and Outswing
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** N/A **Other:** See INST 15225.4-68 (6'8 Door Products), INST 15225.4-80 (8'0 Door Products) and INST 15225-68M (6'8 Door Products Direct to Masonry) for installation instructions. (Note - Glazing Shall comply with ASTM E1300-04)		**Certification Agency Certificate** FL15225_R4_C_CAC_15225.4 NAMI certs.pdf **Quality Assurance Contract Expiration Date** 12/31/2021 **Installation Instructions** FL15225_R4_II_(a)_Inst FL-15225-68MA.pdf FL15225_R4_II_(b)_Inst 15225.4-68.pdf FL15225_R4_II_(b)_Inst 15225.4-80.pdf FL15225_R4_II_FL-15225.4 Glazing Det..pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes **Evaluation Reports** FL15225_R4_AE_(a)_FL-15225-68MA.pdf

		FL15225_R4_AE_(b)_Eval_15225.4-68.pdf FL15225_R4_AE_(b)_Eval_15225.4-80.pdf Created by Independent Third Party: Yes
15225.5	e. "Smooth-Star" and "Benchmark by Therma-Tru"	6/8 and 8/0 Opaque and Glazed Fiberglass Door with and without Sidelites. Inswing and Outswing
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** N/A **Other:** See INST 15225.5-68 (6'8 Door Products), INST 15225.5-80 (8'0 Door Products) and INST 15225-68M (6'8 Door Products Direct to Masonry) for installation instructions. Note - Glazing Shall comply with ASTM E1300-04. (This product approval requires the use of "J" part number doors and sidelites, which have been stained or painted within 6 months of installation - Excludes Opaque Benchmark Door Panels.)		**Certification Agency Certificate** FL15225_R4_C_CAC_15225.5_NAMI_certs.pdf **Quality Assurance Contract Expiration Date** 12/31/2021 **Installation Instructions** FL15225_R4_II_(a)_Inst_15225.5-68.pdf FL15225_R4_II_(a)_Inst_15225.5-80.pdf FL15225_R4_II_(a)_Inst_15225-68M.pdf FL15225_R4_II_FL-15225.5_Glazing_Det..pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes **Evaluation Reports** FL15225_R4_AE_(a)_Eval_15225.5-68.pdf FL15225_R4_AE_(a)_Eval_15225.5-80.pdf FL15225_R4_AE_(a)_Eval_15225-68M.pdf Created by Independent Third Party: Yes
15225.6	f. "Premium Series", "Construction Series" and "Benchmark by Therma-Tru" with Transoms	6/8 and 8/0 Opaque and Glazed Steel Door with Transoms. With and without Sidelites. Inswing and Outswing
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** N/A **Other:** See INST 15225.6-68 (6'8 Door Products) and 15225.6-80 (8'0 Door Products) for installation instructions. (Note - Glazing Shall comply with ASTM E1300-04)		**Certification Agency Certificate** FL15225_R4_C_CAC_15225.6_NAMI_certs.pdf **Quality Assurance Contract Expiration Date** 12/31/2021 **Installation Instructions** FL15225_R4_II_(a)_Inst_15225.6-68.pdf FL15225_R4_II_(a)_Inst_15225.6-80.pdf FL15225_R4_II_FL-15225.6_Glazing_Det..pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes **Evaluation Reports** FL15225_R4_AE_(a)_Eval_15225.6-68.pdf FL15225_R4_AE_(a)_Eval_15225.6-80.pdf Created by Independent Third Party: Yes

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Contact Us :: 2601 Blair Stone Road, Tallahassee FL 32399 Phone: 850-487-1824

THERMA TRU®

THERMA TRU DOORS
118 INDUSTRIAL DR., EDGERTON, OH 43517

"Construction Series"

6'8" SINGLE AND DOUBLE OPAQUE PANELS
W/ & W/OUT SIDELITES
INSWING / OUTSWING
STEEL DOOR

General Notes

1. This product anchoring drawing has been developed in compliance with the 6th Edition (2017) Florida Building Code (FBC) excluding the "High Velocity Hurricane Zone". See the Certification Agency Certificate for sizes, specifications and ratings.
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing, stucco, foam, brick and other wall coverings.
3. Wood screws shall be installed following installation instructions of ANSI/AF&PA NDS 2015. All other fastener types to be installed following fastener manufacturer's installation instructions.
4. Fastener embedment depths, edge distances and center-center distances shall be as specified by the fastener manufacturer but in no instance shall they be less than shown in this drawing.
5. Where shims are used, they must be a "rigid / stiff" material that complies with the requirements of the FBC.
6. Positive and negative design pressure requirements for use with this drawing shall be determined by others for specific jobs in accordance with the governing code.
7. Site conditions not covered by this drawing are subject to further engineering analysis.

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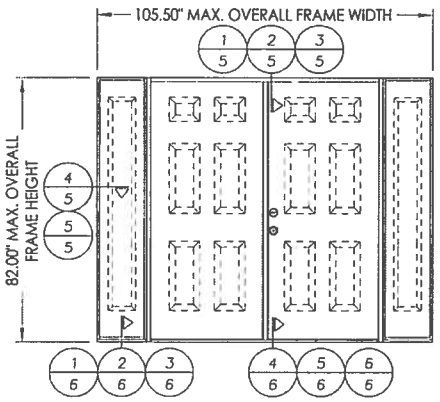
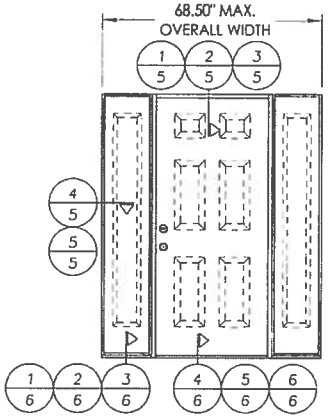


DOUBLE W/ SIDELITES OXXO
MAX DESIGN PRESSURE
+60.0 -60.0



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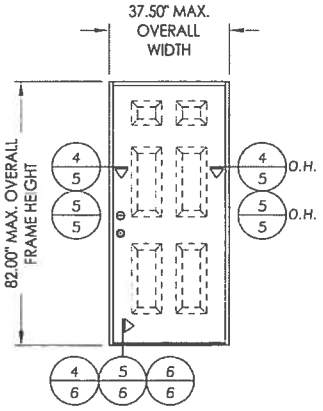

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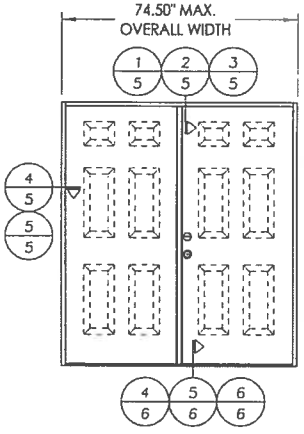

DOUBLE XX
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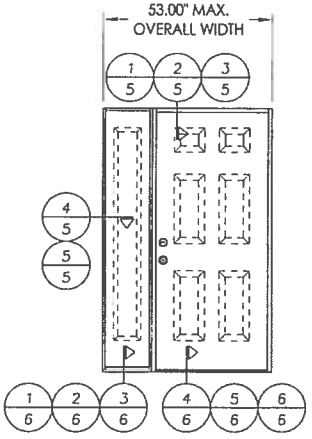

SINGLE W/SIDELITE OX
MAX DESIGN PRESSURE
+60.0 -60.0

LOCK HARDWARE MFG & SERIES
KWIKSET SIGNATURE SERIES LATCH
KWIKSET SIGNATURE SERIES 780 DEADBOLT

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
September 21, 2017

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE C.A. No. 9813

PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO	DATE	REVISIONS	BY
2	9/21/17	UPDATE TO 6TH ED (2017) FBC	LFS
1	9/01/14	UPDATE TO 2014 FBC	LFS

DATE 2/21/12
SCALE N.T.S.
DWG. BY JK
CHK BY LFS
DRAWING NO. FL-15225.2-68
SHEET 1 OF 6

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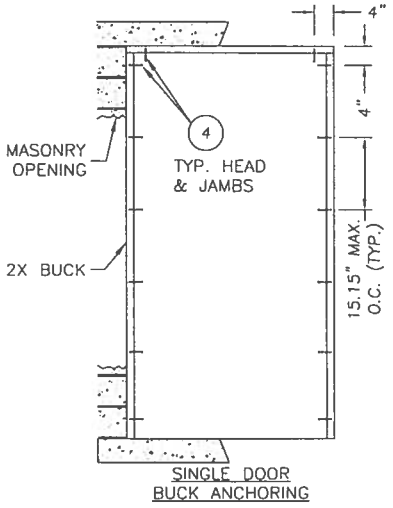
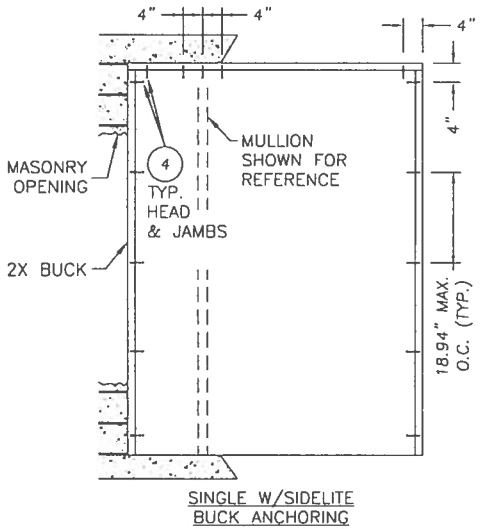


SINGLE DOOR BUCK ANCHORING



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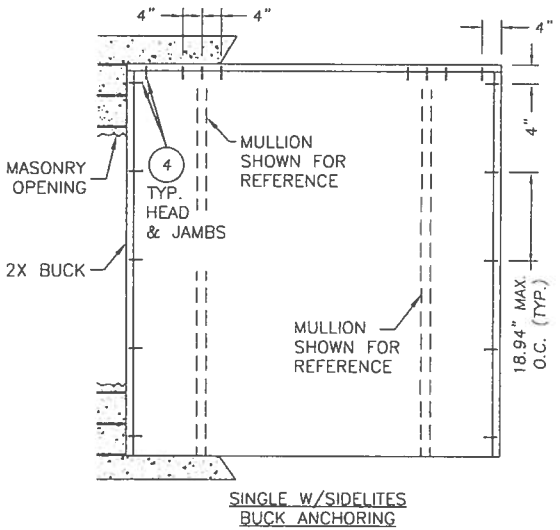
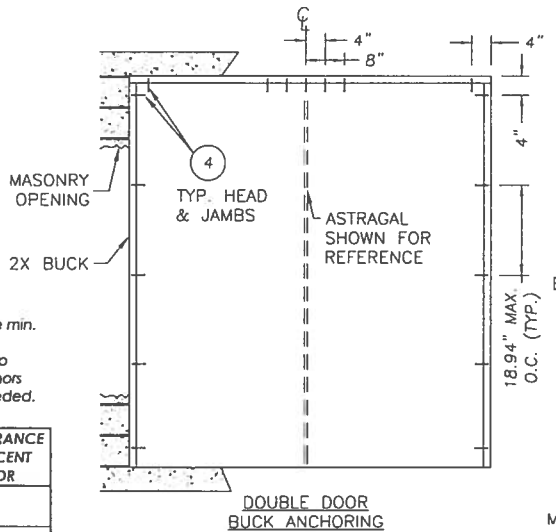
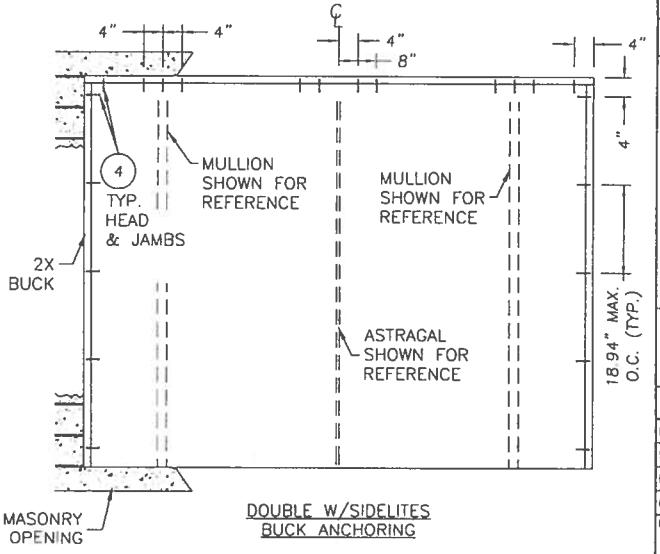


SINGLE W/SIDELITES BUCK ANCHORING



DOUBLE DOOR BUCK ANCHORING



DOUBLE W/SIDELITES BUCK ANCHORING

NOTES:

1. *2X buck min. S.G. ≥ 0.55.*

CONCRETE ANCHOR NOTES:

1. *Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.*
2. *Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.*
3. *Concrete anchor table:*

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

September 21, 2017

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE C.A. No. 9813

PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: BUCK ANCHORING

NO	DATE	BY
2	9/21/17	LFS
1	9/01/14	LFS

REVISIONS

UPDATE TO 6TH ED. (2017) FBC
UPDATE TO 2014 FBC

DATE: 2/21/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15225.2-68
SHEET 2 OF 6

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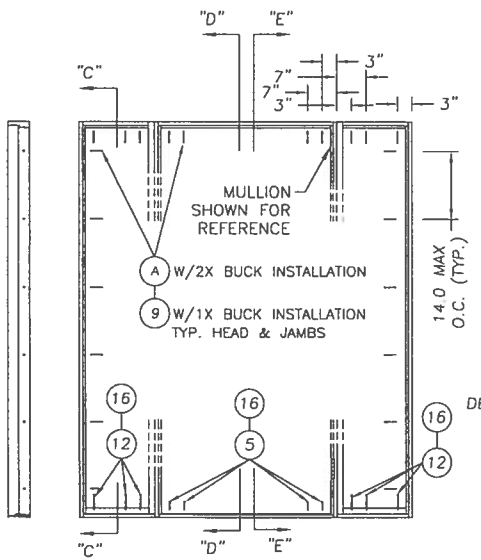
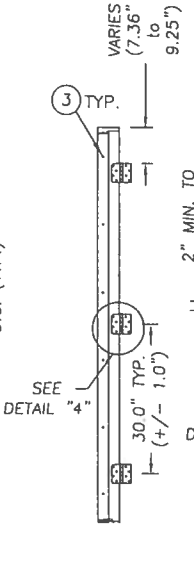


VIEW "C"–"C" SINGLE DOOR W/SIDELITES



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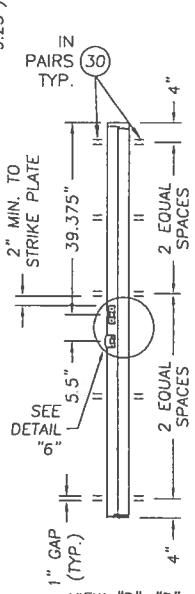
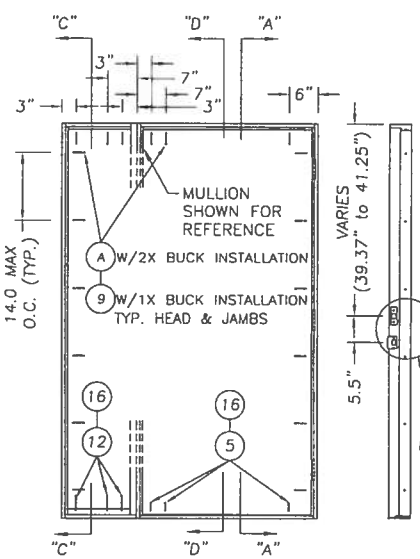
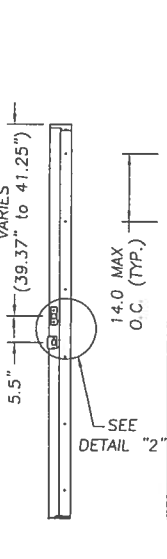


VIEW "D"–"D"

SHOWN W/ OPTIONAL CORRUGATED FASTENERS, ITEM #30 (TYP. ALL SIDELITE TO DOOR JAMB CONNECTIONS)



SINGLE DOOR W/SIDELITE



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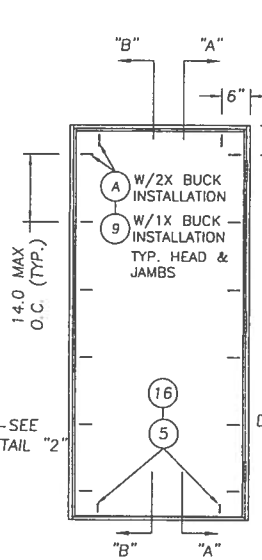
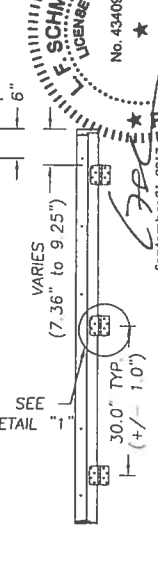


SINGLE DOOR



VIEW "A"–"A"

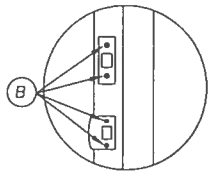
SIDELITE NOTES:

1. *The sidelite is direct set into the jamb with (12) #8 x 2" pfh. wood screws. There are (4) at each vertical jamb, from the top down at 13.5", 31", 48.5" & 66". There are (2) at the header at 4" from the outside corners of the frame. There are (2) at the sill, 4" from the outside corners.*
2. *For optional sidelite construction with staples, sidelite is direct set into the jamb with (4) 7/16" X 1-3/4" 16 ga. staples along each jamb (6" from ends and equally spaced thereafter).*

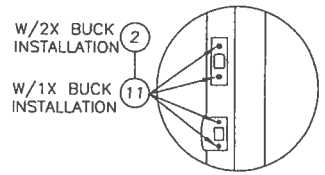
CONCRETE ANCHOR NOTES:

1. *Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.*
2. *Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.*
3. *Concrete anchor table:*

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ITW TAPCON®	3/16"	1-1/4"	3"	1-1/2"



DETAIL "6"



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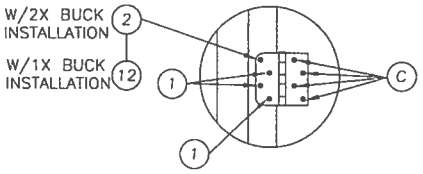

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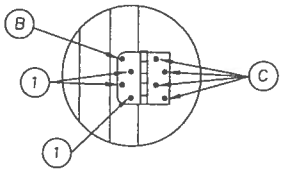


DETAIL "4"

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

September 21, 2017

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.859.9197
FBPE C.A. No. 9813

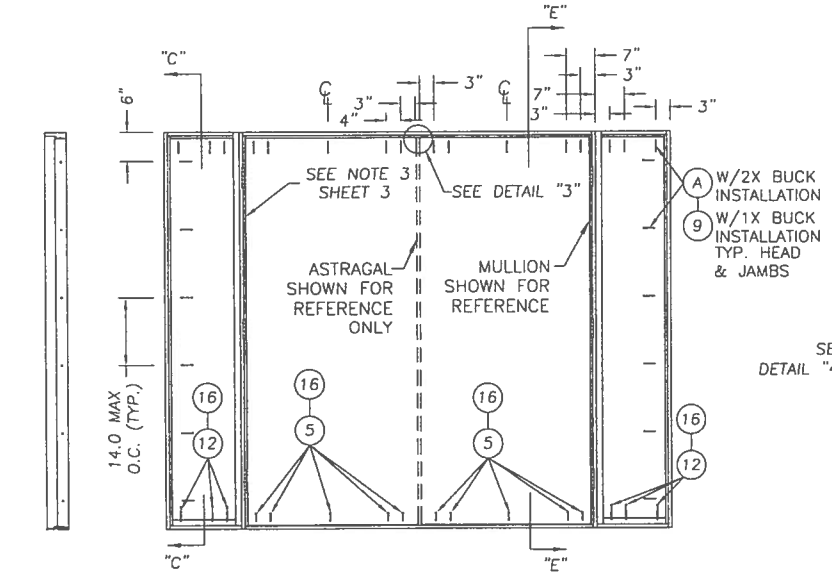
PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	REVISIONS	BY
2	9/21/17	UPDATE TO 6TH ED. (2017) FBC	LFS
1	9/01/14	UPDATE TO 2014 FBC	LFS

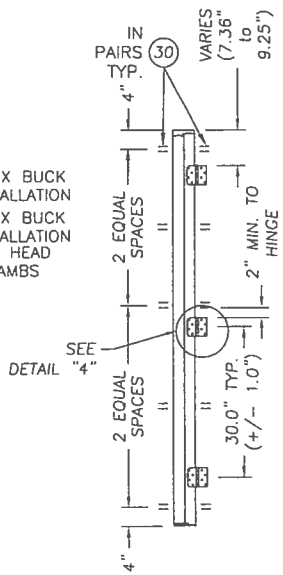
DATE: 2/21/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15225.2-68
SHEET 3 OF 6

R:\Clients\Therma Tru PERMANENT\A - Florida Product Approvals\FL-15225 Cert Mark - Install Only\C Drawings\FL-15225 (2017)\FL-15225 2.dwg, 3



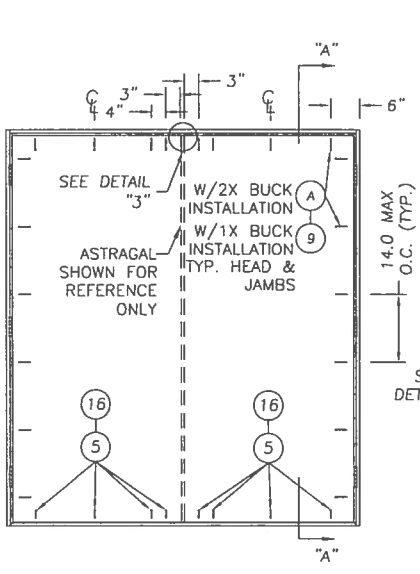
VIEW "C"–"C"

DOUBLE DOOR W/SIDELITES

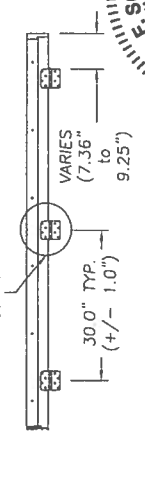


VIEW "E"–"E"

SHOWN W/ OPTIONAL CORRUGATED FASTENERS, ITEM #30 (TYP. ALL SIDELITE TO DOOR JAMB CONNECTIONS)

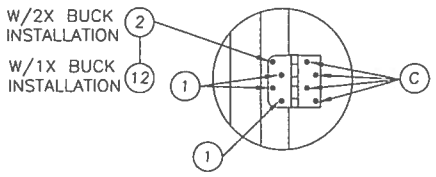


DOUBLE DOOR

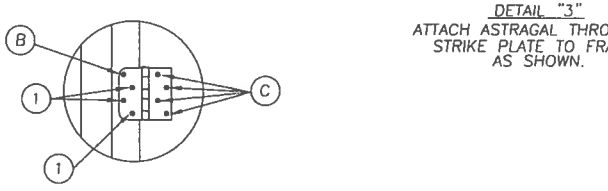


VIEW "A"–"A"

Item	DESCRIPTION	Material
A	#10 x 2-1/2" PFH WOOD SCREW	STEEL
B	#10 X 1-3/4" PFH WOOD SCREW	STEEL
C	#10 X 1" PFH WOOD SCREW	STEEL
1	#10 x 3/4" LG. PFH WOOD SCREW (Hinge to Frame)	STEEL
2	#10 x 2" LG. PFH WOOD SCREW	STEEL
3	#8 x 2-1/2" LG. PFH WOOD SCREW	STEEL
4	1/4" x 2-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
5	1/4" x 1-3/4" ITW PFH CONCRETE SCREW	STEEL
9	1/4" x 3-3/4" ITW PFH CONCRETE SCREW	STEEL
11	3/16" x 3-1/4" ITW PFH CONCRETE SCREW	STEEL
12	1/4" x 3-1/4" ITW PFH CONCRETE SCREW	STEEL
13	MASONRY – 3000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
16	1/4" X 2-1/4" PFH ITW CONCRETE SCREW	STEEL
20	HEADER JAMB (SUGAR PINE, SG >= 0.34)	WOOD
21	3/4" THK. PRESSURE TREATED SIDELITE PAD	WOOD
30	1/2" X 1" X 25 GA. CORRUGATED FASTENER	STEEL



DETAIL "1"



DETAIL "3"

ATTACH ASTRAGAL THROW BOLT STRIKE PLATE TO FRAME AS SHOWN.

DETAIL "4"

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

September 21, 2017

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE C.A. No. 9813

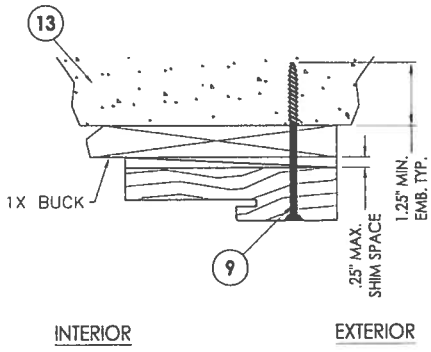
PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: FRAME ANCHORING & BILL OF MATERIALS

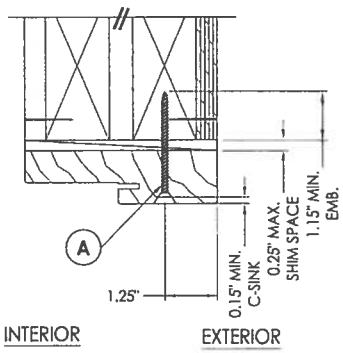
NO.	DATE	REVISIONS	BY
2	9/21/17	UPDATE TO 6TH ED. (2017) FBC	LFS
1	9/01/14	UPDATE TO 2014 FBC	LFS

DATE: 2/21/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15225.2-68
SHEET 4 OF 6

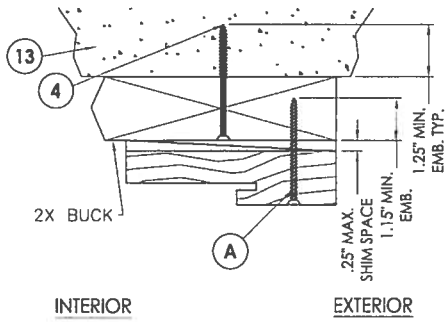
R:\Clients\Therma Tru PERMANENT\A - Florida Product Approvals\FL-15225 Cert Mark - Install Only\C - Drawings\FL-15225 (2017)\FL-15225.2 dwg. 4



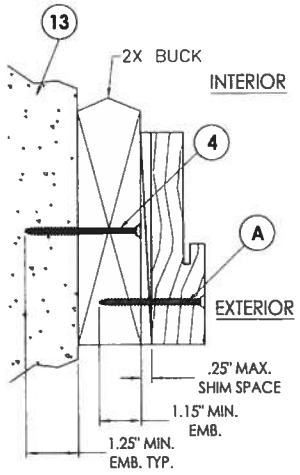
1/5 **HEAD JAMB**
To 1x sub-buck
Inswing shown



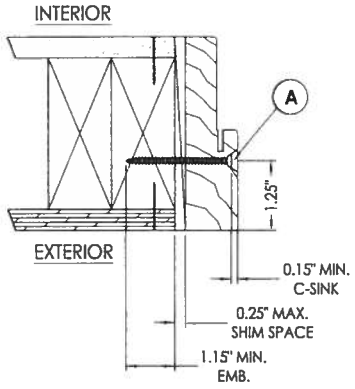
2/5 **HEAD JAMB**
To wood frame
Inswing shown



3/5 **HEAD JAMB**
To 2x sub-buck
Inswing shown



4/5 **VERTICAL SIDE JAMB**
To 2x sub-buck
Inswing shown



5/5 **VERTICAL SIDE JAMB**
To wood frame
Inswing shown

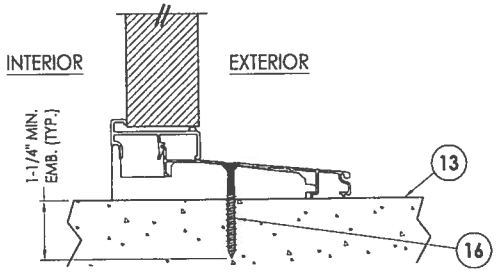
L.F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
September 21, 2017
Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409
R.W. BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE C.A. No. 9813

PRODUCT: THERMA-TRU FIBERGLASS DOOR

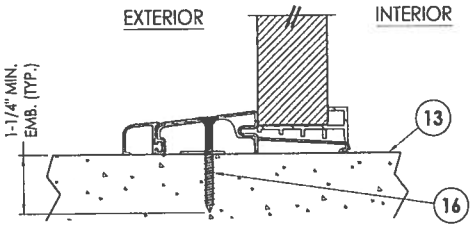
PART OR ASSEMBLY: HORIZONTAL & VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY
2	9/21/17	UPDATE TO 6TH ED (2017) FBC	LFS
1	9/01/14	UPDATE TO 2014 FBC	LFS

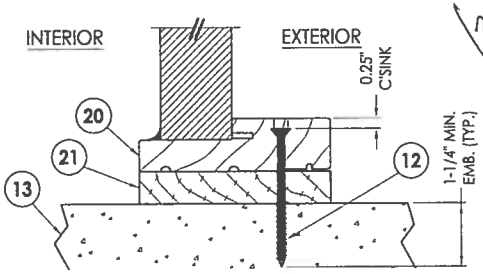
DATE 2/21/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO. FL-15225.2-68
SHEET 5 OF 6



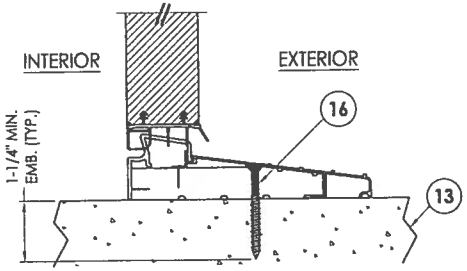
1/6 **VERTICAL CROSS SECTION**
Inswing configuration



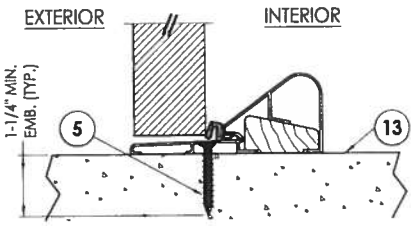
2/6 **VERTICAL CROSS SECTION**
Outswing configuration



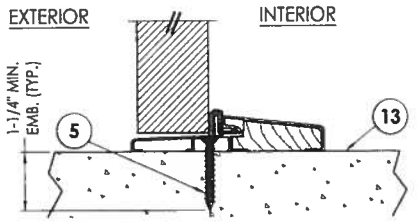
3/6 **VERTICAL CROSS SECTION**



4/6 **VERTICAL CROSS SECTION**
Inswing configuration



5/6 **VERTICAL CROSS SECTION**
Outswing configuration



6/6 **VERTICAL CROSS SECTION**
Outswing configuration

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
September 21, 2017

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE C.A. No. 9813

PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY
2	9/21/17	UPDATE TO 6TH ED. (2017) FBC	LFS
1	9/01/14	UPDATE TO 2014 FBC	LFS

DATE: 2/21/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15225.2-68
SHEET 6 OF 6

R:\Clients\Therma Tru PERMANENT\A - Florida Product Approvals\FL-15225 Cert Mark - Install Only\C - Drawings\FL-15225 (2017)\FL-15225.2.dwg, 6

dbpr

Product Approval
USER: Public User

FL #	FL12952-R5
Application Type	Affirmation
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	Pella Corporation
Address/Phone/Email	102 Main St. Pella, IA 50219 (641) 621-6096 pellaproductapproval@pella.com
Authorized Signature	Beth Phelps phelpsba@pella.com
Technical Representative	Joseph Hayden
Address/Phone/Email	102 Main Street Pella, IA 50219 (641) 621-6096 jahayden@pella.com
Quality Assurance Representative	Pat Bortscheller
Address/Phone/Email	102 Main Street Pella, IA 50219 (641) 621-1000 PJBortscheller@pella.com
Category	Windows
Subcategory	Double Hung
Compliance Method	Certification Mark or Listing
Certification Agency	Window and Door Manufacturer Association
Validated By	Terrence E. Lunn, PE Validation Checklist - Hardcopy Received

Referenced Standard and Year (of Standard)

Standard	Year
101/I.S.2/A440-08	2008

Equivalence of Product Standards Certified By

✓ I affirm that there are no changes in the new Florida Building Code which affect my product(s) and my product(s) are in compliance with the new Florida Building Code.

Documentation from approved Evaluation or Validation Entity Yes No N/A

Product Approval Method	Method 1 Option A
Date Submitted	12/04/2017
Date Validated	12/04/2017
Date Pending FBC Approval	
Date Approved	12/07/2017

Summary of Products

FL #	Model, Number or Name	Description
12952.1	ProLine Clad Double Hung Window	ProLine Series Non-Impact Double Hung Window (41" x 77")
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +30/-30 **Other:** Configurations of glass shall conform to current ASTM E1300 standard.		**Certification Agency Certificate** FL12952_R5_C_CAC_CCL_PLCDH_4577.pdf **Quality Assurance Contract Expiration Date** 05/05/2023 **Installation Instructions** FL12952_R5_II_1142.pdf Verified By: Warren W. Shaefer, P.E. 44135 Created by Independent Third Party: Yes **Evaluation Reports** FL12952_R5_AE_1142.pdf Created by Independent Third Party: Yes
12952.2	ProLine Clad Double Hung Window	ProLine Series Non-Impact Double Hung Window (37" x 65")
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +35/-35 **Other:** Configurations of glass shall conform to current ASTM E1300 standard.		**Certification Agency Certificate** FL12952_R5_C_CAC_CCL_PLCDH_3765.pdf **Quality Assurance Contract Expiration Date** 05/05/2023 **Installation Instructions** FL12952_R5_II_1142.pdf Verified By: Warren W. Schaefer, P.E. 44135 Created by Independent Third Party: Yes **Evaluation Reports** FL12952_R5_AE_1142.pdf Created by Independent Third Party: Yes
12952.3	ProLine Clad Double Hung Window	ProLine Series Non-Impact Double Hung Window (33" x 59")
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +40/-40 **Other:** Configurations of glass shall conform to current ASTM E1300 standard.		**Certification Agency Certificate** FL12952_R5_C_CAC_CCL_PLCDH_3359.pdf **Quality Assurance Contract Expiration Date** 05/05/2023 **Installation Instructions** FL12952_R5_II_1142.pdf Verified By: Warren W. Schaefer, P.E. 44135 Created by Independent Third Party: Yes **Evaluation Reports** FL12952_R5_AE_1142.pdf Created by Independent Third Party: Yes
12952.4	ProLine Clad Double Hung Window	ProLine Series Non-Impact Double Hung Window (33" x 47")
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +50/-50 **Other:** Configurations of glass shall conform to current ASTM E1300 standard.		**Certification Agency Certificate** FL12952_R5_C_CAC_CCL_PLCDH_3347.pdf **Quality Assurance Contract Expiration Date** 05/05/2023 **Installation Instructions** FL12952_R5_II_1142.pdf Verified By: Warren W. Schaefer, P.E. 44135 Created by Independent Third Party: Yes **Evaluation Reports** FL12952_R5_AE_1142.pdf Created by Independent Third Party: Yes
12952.5	ProLine Clad Double Hung Window	ProLine Series Non-Impact Double Hung Window (29" x 53")
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +50/-50 **Other:** Configurations of glass shall conform to current ASTM E1300 standard.		**Certification Agency Certificate** FL12952_R5_C_CAC_CCL_PLCDH_2953.pdf **Quality Assurance Contract Expiration Date** 05/05/2023 **Installation Instructions** FL12952_R5_II_1142.pdf Verified By: Warren W. Schaefer, P.E. 44135 Created by Independent Third Party: Yes **Evaluation Reports** FL12952_R5_AE_1142.pdf Created by Independent Third Party: Yes

12952.6	ProLine Clad Double Hung Window	ProLine Series Non-Impact Double Hung Window (29" x 65")
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +40/-40 **Other:** Configurations of glass shall conform to current ASTM E1300 standard.		**Certification Agency Certificate** FL12952_R5_C_CAC_CCL_PLCDH_2965.pdf **Quality Assurance Contract Expiration Date** 05/05/2023 **Installation Instructions** FL12952_R5_II_1142.pdf Verified By: Warren W. Schaefer, P.E. 44135 Created by Independent Third Party: Yes **Evaluation Reports** FL12952_R5_AE_1142.pdf Created by Independent Third Party: Yes

Back Next

GENERAL NOTES:

1. ALL FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
2. OPENINGS, BUCKING & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER WIND LOADS TO THE STRUCTURE.
3. THESE NON-IMPACT RATED PRODUCT INSTALLATIONS ARE IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC).
4. ALL ANCHORS SECURING PRODUCT FRAMES TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
5. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE CHAPTER 20.
6. TO THE BEST OF OUR KNOWLEDGE, THE PRODUCT SHOWN HEREIN IS CERTIFIED & QUALITY ASSURED BY A FLORIDA STATE APPROVED CERTIFICATION/QA ENTITY & SHALL BE LABELED IN ACCORDANCE WITH THE FBC AND THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATIONS. PRODUCT ASSEMBLY IS NOT PART OF THIS DRAWING AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S QUALITY ASSURANCE SPECIFICATIONS & TESTING REPORTS.
7. CERTIFICATION OF THESE PRODUCT INSTALLATIONS SHALL BE CONSIDERED VOID IF ANY OF THE FOLLOWING APPLY: 1) PRODUCT IS INSTALLED WITHOUT A BUILDING PERMIT FROM THE APPLICABLE LOCAL BUILDING DEPARTMENT. 2) PRODUCT IS INSTALLED BY ANYONE OTHER THAN A LICENSED CONTRACTOR EXPERIENCED WITH INSTALLATIONS OF THIS TYPE OF PRODUCT. 3) IF CHANGES HAVE OCCURRED TO THE PRODUCT'S CERTIFICATION ENTITY'S CERTIFICATE THAT CAUSE THESE INSTALLATIONS TO BE INCORRECT OR INCONSISTENT WITH WHAT HAS BEEN TESTED.
8. THE LEAST DESIGN PRESSURE SPECIFIED EITHER IN THIS DRAWING OR IN THE PRODUCTS CERTIFICATION SHALL CONTROL FOR THE INSTALLED PRODUCT
9. THESE DRAWINGS CERTIFY THE PRODUCT INSTALLATION ONLY. WATER PROOFING OF THE INSTALLED PRODUCT IS NOT PART OF THIS INSTALLATION CERTIFICATION. THAT RESPONSIBILITY SHALL BE THAT OF THE MANUFACTURER &/OR INSTALLER

INSTALLATION EVALUATION IS BASED ON APPLICABLE ANCHOR STANDARDS AND/OR INFORMATION & RESULTS FROM APPLICABLE TEST REPORTS. THE FLORIDA BUILDING CODE VERSION CONSIDERED WITH THE EVALUATION WAS THAT IN FORCE AT THE TIME OF THE EVALUATION. IN THE EVENT OF CODE VERSION CHANGES/UPDATES OR IN THE EVENT THAT NEW OR ADDITIONAL TESTING IS COMPLETED ON THE REFERENCED PRODUCT, PRIOR TO STATING CODE COMPLIANCE WITH THE STATE, THE MANUFACTURER SHALL CONFIRM WITH THE INSTALLATION EVALUATION ENGINEER OF RECORD THAT THE INSTALLATIONS SPECIFIED HERE-IN ARE CURRENT WITH THE THEN CURRENT TESTING, CODE AND APPLICABLE STANDARDS.

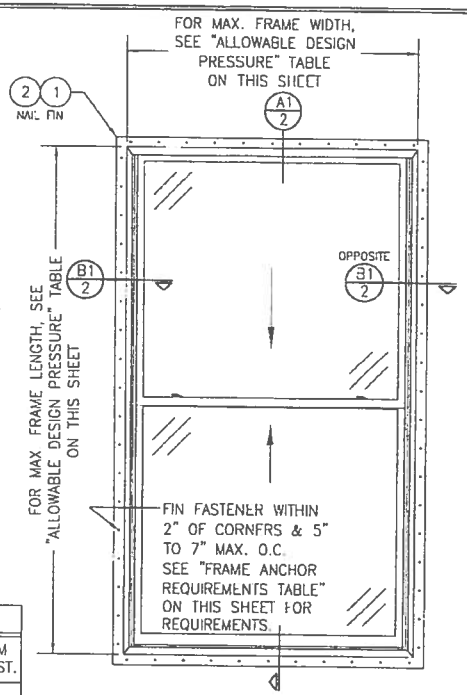
ALTERNATE ANCHOR/SUBSTRATE EVALUATION NOTE:
ALL ALTERNATE ANCHORS IN THEIR SPECIFIED SUBSTRATES HAVE BEEN ANALYZED IN ACCORDANCE WITH THEIR APPLICABLE STANDARD(S) AND ARE FOUND TO BE EQUIVALENT TO OR STRONGER THAN THE ANCHOR(S) USED IN TESTING WITH THIS PRODUCT.

FRAME ANCHOR REQUIREMENTS TABLE

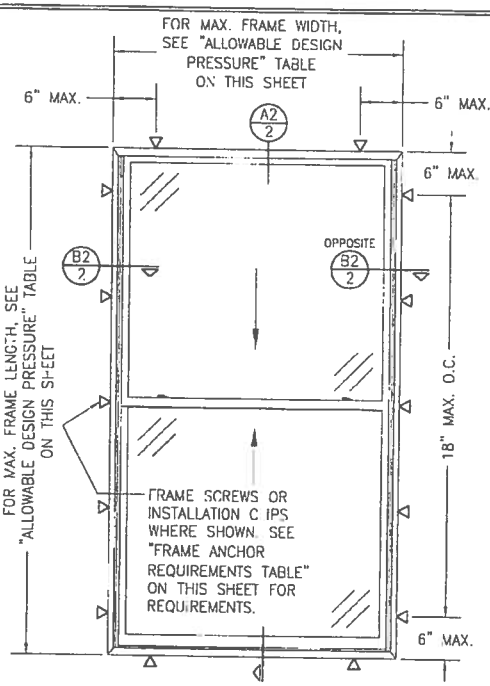
OPENING TYPE (SUBSTRATE)	FRAME/CLIP/NAIL FIN TO OPENING FASTENER TYPE	MINIMUM EMBED	MINIMUM EDGE DIST.
FRAME SCREWS			
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 10 SMS OR WOOD SCREW	1 1/4"	3/4"
MIN. 18 GA. 33 KSI METAL STUD	NO. 10 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	NO. 10 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	NO. 10 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
C 90 CMU/2500 PSI CONCRETE	(1) 1/4" CONCRETE SCREW	1 1/4"	2"
INSTALLATION CLIP SCREWS			
MIN. 2X6 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO 8 X 1 1/2" SMS	1 3/8"	3/4"
MIN. 18 GA. 33 KSI METAL STUD	NO. 8 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	NO. 8 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	NO. 8 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
(2) NAILING FIN FASTENERS			
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 8 X 1 1/2" SMS	1 3/8"	1/2"
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	11 GA. ROOFING NAIL	1 3/8"	1/2"
MIN. 1/8" THK A36 STEEL	NO. 8 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	NO. 8 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"

(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS (C.S.), ELCO CRETE FLEX (S.S.), ITW RAMSET/RED HEAD TAPCONS (C.S. OR S.S.) OR HILTI KWIK-CON II (C.S OR S.S.).
(2) WHEN SCREWS ARE USED WITH THE NAIL FIN, THEY MUST BE A WAFFLE HEAD SCREW OR HAVE A FLAT WASHER AT THE SCREW HEAD

EDGE DISTANCE MAY BE DECREASED TO 1/2" IF SCREWS ARE ANGLED 15 TO 20 DEGREES AWAY FROM THE EDGE.



EXTERIOR ELEVATION: SINGLE WINDOW
SCALE: 3/4" = 1'-0"
(NAIL FIN MOUNT CONDITION)



EXTERIOR ELEVATION: SINGLE WINDOW
SCALE: 3/4" = 1'-0"
(FRAME SCREW & INSTALLATION CLIP MOUNT CONDITION)

ALLOWABLE DESIGN PRESSURE

MAX. FRAME WIDTH (IN.)	MAX. FRAME HEIGHT (IN.)	ALLOWABLE PRESSURE (+/- PSF)
33	47	50
29	53	50
33	59	40
29	65	40
37	65	35
41	77	30

CONDITIONS SHOWN ON THIS DRAWING ARE GOVERNED BY INSTALLATION REQUIRFMENTS ONLY THE GOVERNING CONDITIONS ON ANY SPECIFIC WINDOW SHALL BE THE LESSER OF THOSE SPECIFIED IN THE WINDOWS STATE APPROVAL OR THAT SHOWN IN THESE DRAWINGS.

WARREN W. SCHAEFER * LICENSE * NO. 44135 * STATE OF FLORIDA * PROFESSIONAL ENGINEER *

THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

NO.	REVISION DESCRIPTION	BY	DATE
A1	UPDATE PER NEW TESTING	WRM	05/12/13
B1	UPDATE PER NEW TESTING	WRM	08/29/13
C1	UPDATE TO CURRENT STANDARDS	WWS	09/29/15

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1-16 | DATE: 09/18/08

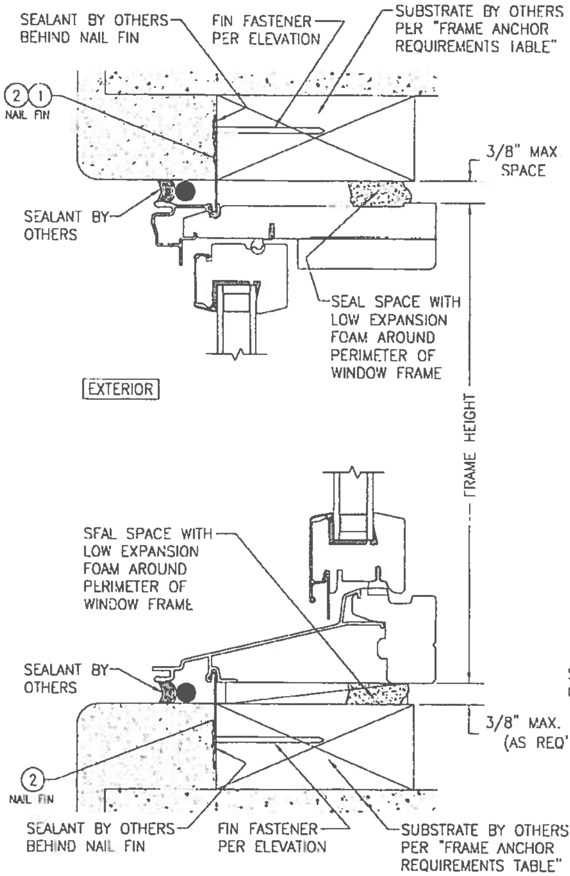
DRAWING TITLE: PROLINE SERIES NON-IMPACT DOUBLE HUNG WINDOW

MANUFACTURER: PELLA CORPORATION, 102 MAIN STREET, PELLA, IA 50219, 641-621-1000

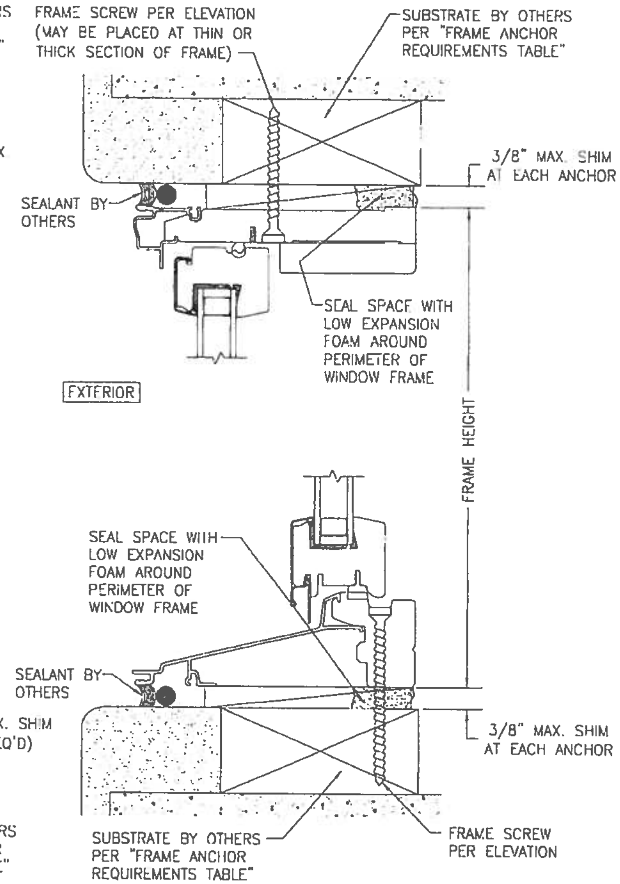
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809), 7480 130TH COURT NORTH, PALM BEACH GARDENS, FL 33418, PHONE: 561-744-3424

CERTIFICATION: SEP 29 2015, WARREN W. SCHAEFER P.E. P.E. NO. 44135

DRAWING NO. 1142 | REV. C
SHEET NO. 1 OF 3

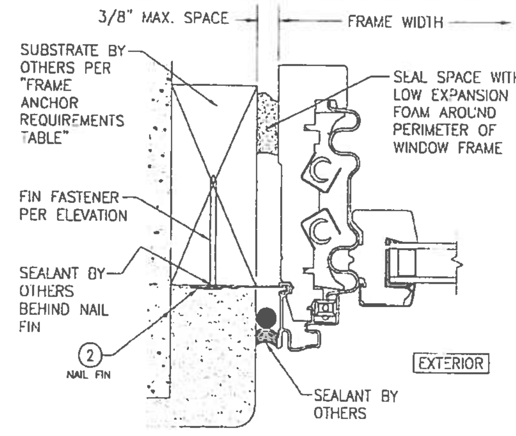


SECTION (A1/2)
SCALE: 1/2 FULL
(NAIL FIN MOUNT CONDITION)

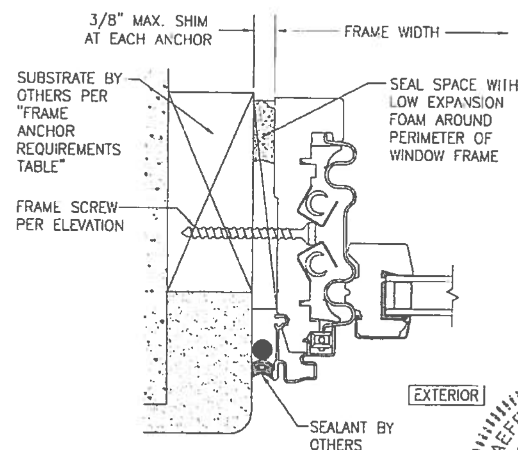


SECTION (A2/2)
SCALE: 1/2 FULL

FRAME SCREW MOUNT SHOWN. SEE DETAILS ON SHEET 3 FOR DIRECT MOUNT & CLIP MOUNT DETAILS.



SECTION (B1/2)
SCALE: 1/2 FULL
(NAIL FIN MOUNT CONDITION)



SECTION (B2/2)
SCALE: 1/2 FULL

FRAME SCREW MOUNT SHOWN. SEE DETAILS ON SHEET 3 FOR DIRECT MOUNT & CLIP MOUNT DETAILS.

DRAWN BY: J.C.F.	CHECKED BY: W.W.S.
PLOT: 1=2	DATE: 08/05/02

NO	REVISION DESCRIPTION	BY	DATE

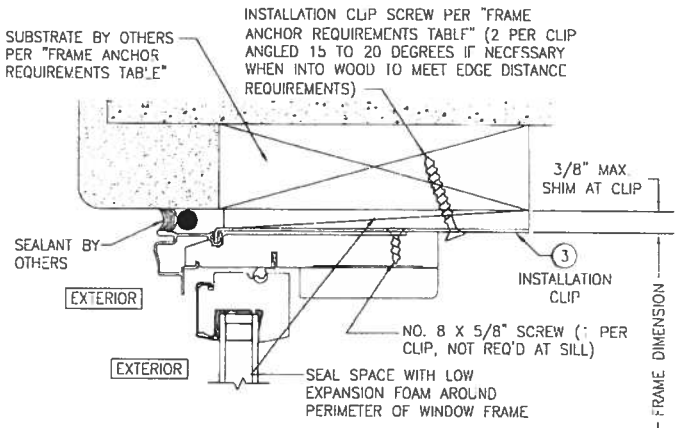
DRAWING TITLE
PROLINE SERIES NON-IMPACT CLAD DOUBLE HUNG WINDOW

CONSULTANTS
W. SCHAEFER ENGINEERING CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

MANUFACTURER
PELLA CORPORATION
102 MAIN STREET
PELLA, IA 50219
641-621-1000

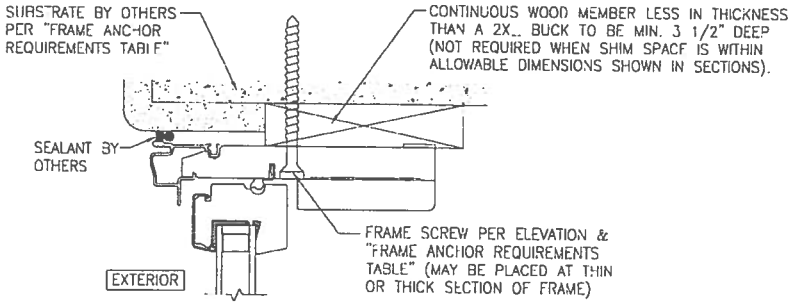
CERTIFICATION
WARREN W. SCHAEFER, P.E. NO. 41361

DRAWING NO. 1142 REV. C
SHEET NO. 2 OF 3



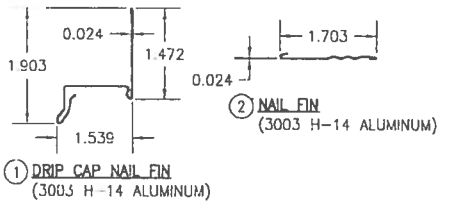
INSTALLATION CLIP DETAIL

(HEAD SECTION SHOWN; SILL & SIDES ARE INSTALLED THE SAME)
(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)



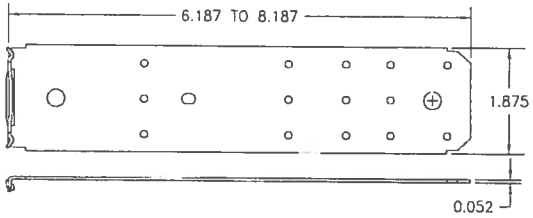
OPTIONAL DIRECT MOUNT DETAIL
TO SUBSTRATE WITH SPACER

(HEAD SECTION SHOWN; SILL & SIDES ARE INSTALLED THE SAME)



1 DRIP CAP NAIL FIN
(3003 H-14 ALUMINUM)

2 NAIL FIN
(3003 H-14 ALUMINUM)



3 FRAME INSTALLATION CLIP
(50 KSI STEEL)

WARREN W. SCHAEFER * LICENSE No. 44135 * STATE OF FLORIDA * PROFESSIONAL ENGINEER *

NO.	REVISION DESCRIPTION	BY	DATE

DRAWN BY: J.C.F | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 08/08/02

DRAWING TITLE: PROLINE SERIES NON-IMPACT CLAD DOUBLE HUNG WINDOW

MANUFACTURER: PELLA CORPORATION, 102 VAIN STREET, PELLA, IA 50219, 641-621-1000

CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809), 7480 156TH COURT NORTH, PALM BEACH GARDENS, FL. 33418, PHONE: 561-744-3424

CERTIF CATION: SEP 29 2015

WARREN W. SCHAEFER P.E. P.E. NO. 44135

DRAWING NO. 1142 | REV. C

SHEET NO. 3 OF 3

Florida dbpr

Product Approval
USER: Public User

OFFICE OF THE SECRETARY

FL #	FL13815-R3
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer Address/Phone/Email	Pella Corporation 102 Main St. Pella, IA 50219 (641) 621-6096 pellaproductapproval@pella.com
Authorized Signature	TROY FARR tbfarr@pella.com
Technical Representative Address/Phone/Email	Joseph Hayden 102 Main Street Pella, IA 50219 (641) 621-6096 jahayden@pella.com
Quality Assurance Representative Address/Phone/Email	Pat Bortscheller 102 Main Street Pella, IA 50219 (641) 621-1000 PJBortscheller@pella.com
Category	Windows
Subcategory	Mullions
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Robert J. Amoruso
Florida License	PE-49752
Quality Assurance Entity	Architectural Testing, Inc., an Intertek Company
Quality Assurance Contract Expiration Date	12/31/2020
Validated By	Charles Pagen, Fenestration Technology, LLC ✓ Validation Checklist - Hardcopy Received
Certificate of Independence	FL13815_R3_COI_CI_1678_Rev1_415-0309_Mullion_ss.pdf

Referenced Standard and Year (of Standard)	**Standard**	**Year**
	AAMA 450	2010

Equivalence of Product Standards Certified By	
Sections from the Code	

Product Approval Method	Method 1 Option D
Date Submitted	01/26/2018
Date Validated	01/29/2018
Date Pending FBC Approval	02/04/2018
Date Approved	04/10/2018

Summary of Products

FL #	Model, Number or Name	Description
13815.1	Pella Clad and Wood Windows	Joining Mullion with End Anchors - Window to Window Combinations
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** N/A **Other:** Compliance limited to Wind Zone 3 or less where basic wind speeds do not exceed 140 mph. See page 2 of report for applicable Pella products.		**Installation Instructions** FL13815_R3_II_Pella Report No. 0507-04 060110_ss.pdf Verified By: Robert J. Amoruso PE-49752 Created by Independent Third Party: Yes **Evaluation Reports** FL13815_R3_AE_PER_1673_Pella_Rev2_ss.pdf Created by Independent Third Party: Yes
13815.2	Pella Clad and Wood Windows and Doors	Joining Mullion with End Anchors - Door to Window and Door to Door Combinations
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** N/A **Other:** Compliance limited to Wind Zone 3 or less where basic wind speeds do not exceed 140 mph. See page 2 of report for applicable Pella products.		**Installation Instructions** FL13815_R3_II_Pella Report No. 0506-06 060710_ss.pdf Verified By: Robert J. Amoruso PE-49752 Created by Independent Third Party: Yes **Evaluation Reports** FL13815_R3_AE_PER_1678_Pella_Rev2_ss.pdf Created by Independent Third Party: Yes

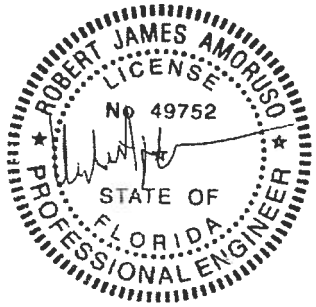
Back Next

Pella Corporation
102 Main Street
Pella, Iowa 50219

PROJECT:
MULLION CALCULATIONS
FOR VERTICAL AND HORIZONTAL MULLION

SERIES: Joining Mull for Doors with Transoms and/or Sidelights (Tight Mulls)

PROJECT NO.: 415-0309
REPORT NO.: 0506-6
DATE: 5/26/2015



Digitally signed by Robert J. Amoruso
DN: cn=Robert J. Amoruso, o, ou=PTC Product Design Group, email=robert@ptc-corp.com, c=US
Date: 2015.05.26 10:57:06 -04'00'

Prepared by:
PTC, PRODUCT DESIGN GROUP
P.O. Box 520775
Longwood, Florida 32752
Phone: (321) 690-1788
Fax: (321-) 690-1789

Evaluated By:
ROBERT J. AMORUSO, P.E.
FL. NO. 49752
F.B.P.E. CERTIFICATE OF AUTHORIZATION NO. 25935

PTC PRODUCT DESIGN GROUP, LLC
P.O. Box 520775
Longwood, Florida 32752

SCOPE PTC, PRODUCT DESIGN GROUP was contracted by Pella Corporation to perform engineering evaluations of various mulled door and window combinations. This report will be based on joining the properties of the weakest wood frame (Inswing Door) jambs as demonstrated in the section property section of this report, by evaluation of possible groupings of mullions based on section property comparisons in accordance with the AAMA 450-06/09/10. Structural analysis of the mullions is based on the current edition of the Florida Building Code – Building and Residential Volumes, Chapter 17 and Chapter 6 respectively using the product grouping method and tributary loading of AAMA 450.

PRODUCT APPLICABILITY: This report is applicable to the following Pella Corporation product lines and types only.

1. **Product Lines**
   a. Architect Series (including HurricaneShield, 850 Series), exterior clad and wood.
   b. Designer Series (750 Series), exterior clad
   c. Proline Series (450 Series), exterior clad
   d. Pella Support Products, exterior clad
   e. Pella Entry Systems, exterior clad and wood

2. **Product Types**
   a. Casement
   b. Awning
   c. Picture
   d. Direct Set Geometric and Radius
   e. Sliding Patio Door
   f. In-swing Patio Door
   g. Out-swing Patio Door
   h. In-swing Entry Door
   i. Out-swing Entry Door

3. **Product Materials**
   a. Extruded aluminum for aluminum portions of door and windows.
   b. Pine for wood portions of door and window frames.

The tributary areas are identified and calculated. These results are used to calculate the maximum pressure that the product can withstand without exceeding the allowable stresses or deflection. The minimum of these results is selected and defined as the design pressure for the product. Mullion stress and deflection is calculated using the AAMA 450 load distribution method.

For each mullion configuration, spreadsheet programs are used to calculate the apparent EI and equivelent I, a design pressure verification using equivelent I, and alternate spans from the design pressure calculation.

ANALYSIS METHODOLOGY:

The following methodology was used to develop the Load width span tables presented in this report.

1. Determine the allowable design pressure (D.P.) based on the actual shear stress, bending stress, deflection and mullion reactions as compared to their respect design allowables choosing the worst case.

2.. Worst case section properties determined by a comparison of the individual component sections of the applicable products, the cross sections exhibiting the lowest Moment of Inertia (I) and section Modulus (Z) will be used. Area as it is related to shear stress does not govern design so it is not a deciding factor of the worst case section.

3. Using a ratio of the wood window jambs Modulus of Elasticity (I) compute the overall apparent section properties of the worst case cross section.

4. Use the properties determined above in determining the load width/span tables.

5. Analysis based on:
   a. Horizontal Shear Stress = P/A *(psi)*
   b. Bending Stress = $Mc/I = M/Z$ *(psi)*
      i. M = bending moment and is equal to M/Kf
      ii. Kf is moment coefficient based on trapezoidal load distribution.

   c. Deflection = $WL^3 / KdEI$
      i. Kd is deflection coefficient based on trapezoidal distribution.
      ii. W is load on mullion in Lbs. = wL where w is distributed load in Lbs/in and L in mullion span inches.

   d. Mullion End Load Reactions
      i. Based on trapezoidal load on mullion resolved into total load distributed to each end of mullion equally.

6. Load Width/Span Tables based on:
   a. Solving for the allowable design pressure (D.P.) considering various window sizes and mullion spans.

MULLION END ANCHORAGE:

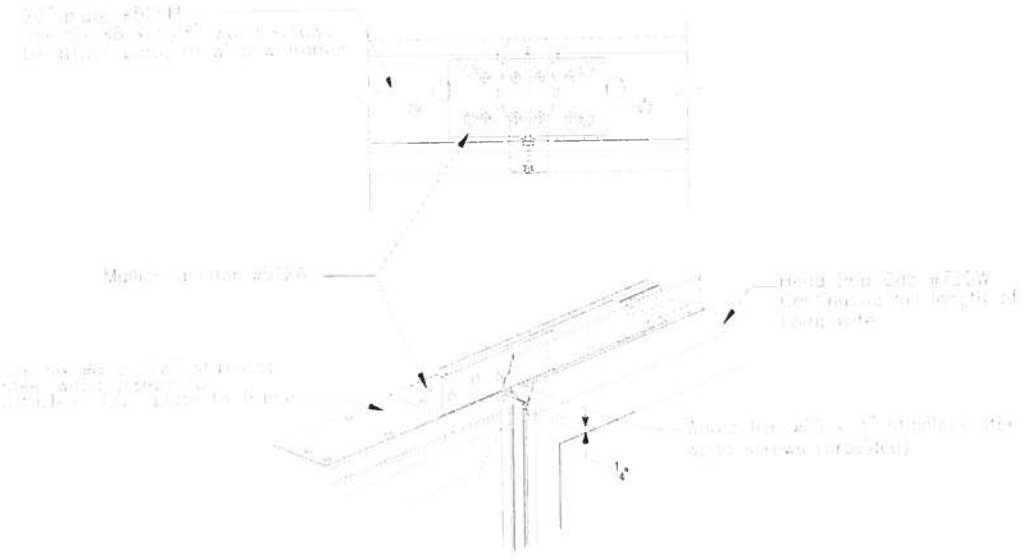
1. Calculated performance is based on the following:
   Mullions anchor plates
   a. 512-A Wood mullion anchor clip. (316 stainless steel)
   b. 5071 installation type clip (A-653 Hot dipped Galvanized steel)
   c. 500 P steel plate and through frame alternate end anchorage.

MULLION ATTACHEMENT:

2. a. **Mullion End Clip 512-A (Fin mull anchor clip)**
   i. The end clip is secured to each end of window jambs using eight #10 x 5/8" wood screws below, and requires a minimum of 1-1/2" wood buck thickness (See Detail A).

   ii For 20" plate attachment to both window frames use six (6) #6 x 5/8" stainless steel screws.

   iii. For clip attachment to wood frame substrates use five (5) #10 x 2" long or longer wood screws per clip leg into the installation bucking or frame with a minimum of 1 1/2" embedment into substrate and maintaining at least 3/4" minimum edge distance is required based on the analysis used in this report for development of the load width and span.



Mullion End Clip 512-A (Fin mull anchor clip)
Detail A

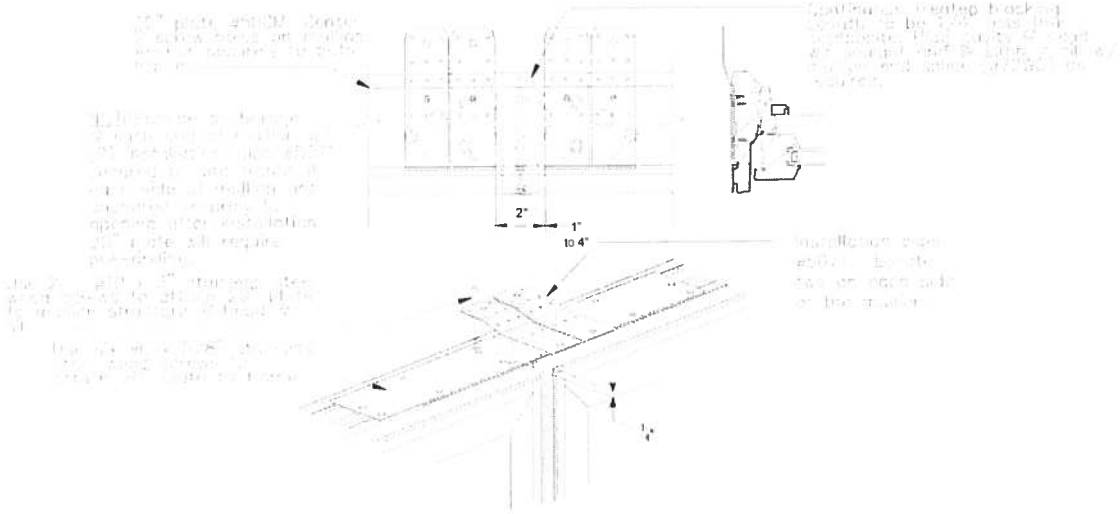
f. **Mullion End Clip 5071**

i. The end clips are secured to each end of joined widow frames using a 6-1/2" steel plate #500M installed directely over both frames, then install two (2) 5071 mull clips two at each side of the joined window frames, (See Detail B)

ii For 6-1/2" plate attachment to both window frames use six (6) #6 x 5/8" stainless steel screws.

iii. For clip attachment to wood frame substrates use a total of four (4) #10 x 2" long or longer wood screws one per each clip leg into the installation bucking or frame with a minimum of 1 1/2" embedment into substrate and maintaining at least 3/4" minimum edge distance, for clip attachment to window frames through plate use two (2) #5/8" stainless steel screws per each clip is required based on the analysis used in this report for development of the load width span.

iv For clip attachment to CMU or concrete substrates use a total of four (4) 3/16" dia. masonry anchors one (1) per each clip leg into the installation bucking or frame with a minimum of 1 1/4" embedment into substrate and maintaining at least 2 5/8" minimum edge distance each clip anchor hole spacing must be located at least on 2 1/4" spacing between anchors, for clip attachment to window frames through plate use two (2) #10 x 5/8" stainless steel screws per each individual clip is required based on the analysis of this report for development of the load width span.



Detail B
Mullion End Clip 5071

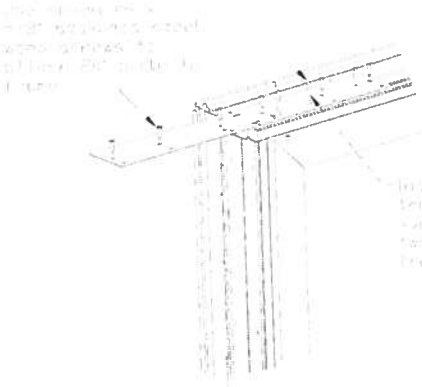
g. **Alternate, Through 500 P steel plate and main frame at mullion sill end.**

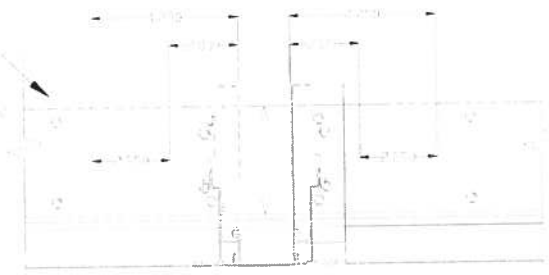
i. For 20" plate attachment to both main frame members use seven (7) #6 x 5/8" stainless steel wood screws and two (2) #10 x 3" stainless steel wood screws to attach the 500 P plate directely to mullion structure at sill end (See detail C).

ii For anchor attachment to wood frame substrates use a total of four (4) #10 x 2" long or longer wood screws located 2" and 4-1/4" from each mullion end into the installation bucking or frame with a minimum embedment of 1-1/2"and maintaining at least 3/4" minimum edge distances is required based on the analysis used on this report for the development of the load width and span tables.

iii. For anchor attachment to cmu or concrete substrates use a total of four (4) 3/16" diam. Masonry anchors located 2" and 4-1/4" from each mullion end into the installation bucking or frame with a minimum embedment of 1-1/4"and maintaining at least 2-5/8" minimum edge distances is required based on the analysis used on this report for the development of the load width and span tables.

Detail C
Through Plate and Frame anchorage





REFERENCED DOCUMENTS:

1. AAMA 450-06/09/10

2. Florida Building Code
   a. Current Edition of the Florida Building Code (FBC), Building Volume
      i. Chapter 17 - Mullions
   b. Current Edition of the Florida Building Code (FBC), Residential volume
      i. Chapter 6 - Mullions

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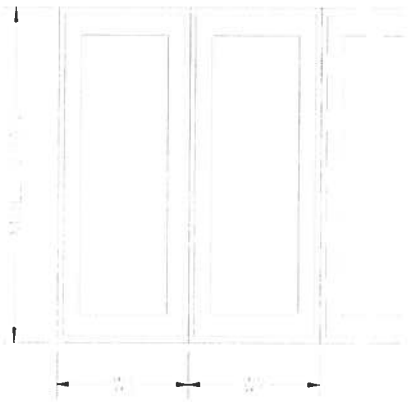

LOAD WIDTH = $\frac{W1 + W2}{2}$

THIS CHART APPLIES TO MULTIPLE WIDE 1 HIGH, VERTICALLY.

LOAD WIDTH MUST BE CALCULATED USING LARGEST ADJACENT (SIDE BY SIDE) DOOR HEIGHTS OR WIDTHS.

MULL SPANS ARE RESTRICTED BY THE LONGEST SPAN, (All TABLES).

WINDOWS MAY BE INTERMIXED COMBINATIONS OF CASEMENT, AWNING, PICTURE, IN-SASH AND DIRECT SET GEOMETRIC OR RADIUS, (ALL TABLES).

ALLOWABLE PRESSURES ON THE MULLED ASSEMBLY SHALL BE CONTROLLED BY THE LESSER OF MULLION OR THE INDIVIDULE WINDOW UNIT.

MULLION TABLE 1

DOOR TO DOOR OR DOOR TO WINDOW
(VERTICAL SPAN—JOINING Mull)

MULL SPAN	LOAD WIDTH	CLIP TYPE 512A (PSF)	CLIP TYPE 5071 (PSF)	MULL SPAN	LOAD WIDTH	CLIP TYPE 512A (PSF)	CLIP TYPE 5071 (PSF)
60	30	82	82	96	30	30	30
	36	71	71		36	26	26
	42	64	64		42	22	22
	48	60	60		48	20	20
66	30	67	67	102	30	26	26
	36	58	58		36	22	22
	42	51	51		42	19	19
	48	47	47		48	17	17
72	30	56	56	108	30	22	22
	36	48	48		36	19	19
	42	42	42		42	16	16
	48	38	38		48	14	14
78	30	47	47	114	30	19	19
	36	40	40		36	16	16
	42	35	35		42	14	14
	48	32	32		48	12	12
84	30	40	40	120	30	16	16
	36	34	34		36	13	13
	42	30	30		42	12	12
	48	27	27		48	10	10
90	30	35	35				
	36	29	29				
	42	26	26				
	48	23	23				

* Use this table for intermediate 2-way vertical mullions.

* For anchor clip attachment to substrates, see notes on sheets 4 & 5 on this report.

* where installation applications do not permit the use of clip type 5071 an alternate through frame mullion anchorage may be substituted see detail "C" on sheet 6 of this report.

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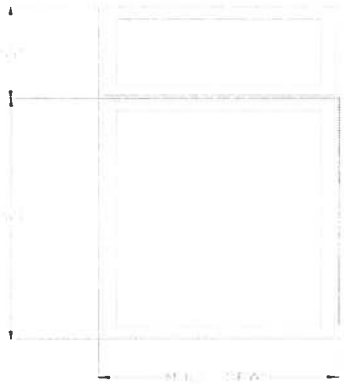

LOAD WIDTH = $\frac{W1 + W2}{2}$

THIS CHART APPLIES TO 1 WIDE 1 HIGH, HORIZONTALLY.

LOAD WIDTH MUST BE CALCULATED USING LARGEST ADJACENT (SIDE BY SIDE) DOOR AND WINDOW HEIGHTS OR WIDTHS.

MULL SPANS ARE RESTRICTED BY THE LONGEST SPAN, (All TABLES).

WINDOWS MAY BE INTERMIXED COMBINATIONS OF CASEMENT, AWNING, PICTURE, IN-SASH AND DIRECT SET GEOMETRIC OR RADIUS, (ALL TABLES).

ALLOWABLE PRESSURES ON THE MULLED ASSEMBLY SHALL BE CONTROLLED BY THE LESSER OF MULLION OR THE INDIVIDULE DOOR UNIT.

* Use this table for intermediate 2-way horizontal mullions.

* For anchor clip attachment to substrates, see notes on sheets 4 & 5 on this report.

* Where installation applications do not permit the use of clip type 5071 an alternate through frame mullion anchorage may be substituted, see detail "C" on sheet 6 on this report.

MULLION TABLE 2

DOOR TO WINDOW

(HORIZONTAL SPAN—JOINING MULLION FOR DOOR TO WINDOW UNITS)

MULL SPAN	LOAD WIDTH	CLIP TYPE 512A (PSF)	CLIP TYPE 5071 (PSF)	MULL SPAN	LOAD WIDTH	CLIP TYPE 512A (PSF)	CLIP TYPE 5071 (PSF)	MULL SPAN	LOAD WIDTH	CLIP TYPE 512A (PSF)	CLIP TYPE 5071 (PSF)
30	30	85	85	66	30	85	85	96	30	31	31
	36	85	85		36	77	77		36	27	27
	42	85	85		42	69	69		42	23	23
	48	85	85		48	63	63		48	21	21
	54	85	85		54	59	59		54	19	19
	60	85	85		60	57	57		60	18	18
	66	85	85		66	57	57		66	17	17
	72	85	85		72	57	57		72	16	16
36	30	85	85	68	30	84	84	102	30	26	26
	36	85	85		36	72	72		36	22	22
	42	85	85		42	64	64		42	19	19
	48	85	85		48	59	59		48	17	17
	54	85	85		54	55	55		54	16	16
	60	85	85		60	53	53		60	15	15
	66	85	85		66	52	52		66	14	14
	72	85	85		72	52	52		72	13	13
42	30	85	85	72	30	74	74	108	30	22	22
	36	85	85		36	63	63		36	19	19
	42	85	85		42	56	56		42	16	16
	48	85	85		48	51	51		48	14	14
	54	85	85		54	48	48		54	13	13
	60	85	85		60	45	45		60	12	12
	66	85	85		66	44	44		66	11	11
	72	85	85		72	44	44		72	11	11
48	30	85	85	78	30	60	60	114	30	19	19
	36	85	85		36	51	51		36	16	16
	42	85	85		42	45	45		42	14	14
	48	85	85		48	41	41		48	12	12
	54	85	85		54	38	38		54	11	11
	60	85	85		60	36	36		60	10	10
	66	85	85		66	35	35		66	9	9
	72	85	85		72	34	34		72	9	9
54	30	85	85	84	30	48	48	120	30	16	16
	36	85	85		36	41	41		36	13	13
	42	85	85		42	36	36		42	12	12
	48	85	85		48	32	32		48	10	10
	54	85	85		54	30	30		54	9	9
	60	85	85		60	28	28		60	9	9
	66	85	85		66	27	27		66	8	8
	72	85	85		72	26	26		72	7	7
60	30	85	85	90	30	38	38				
	36	85	85		36	33	33				
	42	85	85		42	29	29				
	48	80	80		48	26	26				
	54	76	76		54	24	24				
	60	75	75		60	22	22				
	66	75	75		66	21	21				
	72	75	75		72	20	20				

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Product Grouping:

1. Architect Clad HurricaneShield (Windzone 3 only), Architect, Designer and Proline Clad combination assemblies with Joining mullion in intermixed configurations of casement, Awning, Picture, In-sash or Direct set Geometric or Radius.

2. Product type grouping: operable vs. fixed window load distribution was considered in the determination of the theoretical stress and deflection analysis due to mullion bending load and how concentrated loads produce higher bending stresses and deflections.

Section Property Grouping:

1. The casement and inswing door type frame jambs combined produce the lowest overall section properties as joined section properties The wood jambs joined mechanically with anchors act as one member.

2. The illistration below shows the individule component section properties for the casement and inswing door jamb.

3. The intermixed combinations of Casement, Awning, Picture, In-Sash, and Direct Set geometric or Radius were examined, the combined section properties calculated using AutoCad (independent of material stiffnesses), and based on comparison of these section properties the combination of units that produce the weakest section determined. This section, combined was used in the analysis.

JOINED COMPOSITE SECTION PROPERTIES

Door to Window

In-swing door jamb with casement jamb used in door to window or door to door mull analysis is shown at left. Only the wood jambs, wood side stops are considered in the calculation of section properties.
The wood covers are not considered.

The combined section properties for the above, considering the material differences were found to be the following.

I =	10.579	in4
S =	4.904	in3
A =	9.114	in2

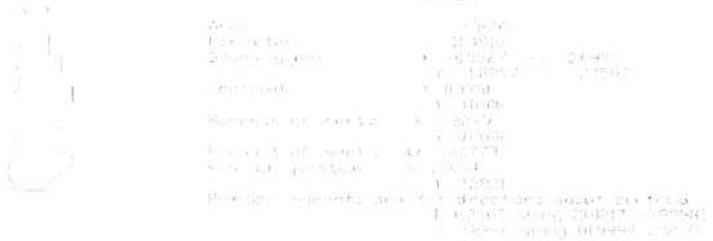
(In terms of wood)

The individule wood jambs, wood side stops section properties used to determine the combined section properties are given on the following page.

Joining Mull, 2-Way (VT or HZ)

Wood Side Stop (VT or HZ)

wood Jamb (VT or HZ)



Wood Door Jamb and Stop (VT or HZ)
Composite Properties

PTC PRODUCT DESIGN GROUP, LLC
P.O. Box 520775
Longwood, Florida 32752

SECTION PROPERTY COMPARISON CHART (VT. & HZ.)

Minimum of Compared Section Properties				
Brand	Product	Section	Exterior	MOI_Wood
	Window Mullion Charts	**All**	**Clad**	**4.1239**
	Door Mullion Charts	**All**	**Clad**	**6.4792**
Architect Series	Clad Frame (Direct Set)	All	Clad	4.3409
Architect Series	Casement	All	Wood	5.8819
Architect Series	In-swing Patio Door	All	Wood	10.5581
Architect Series	Out-swing Patio Door	All	Wood	8.7762
Architect Series	**Casement**	**All**	**Clad**	**4.1239**
Architect Series	**In-swing Patio Door**	**All**	**Clad**	**6.4792**
Architect Series	Out-swing Patio Door	All	Clad	9.2629
Architect Series	Sliding Patio Door	Jamb	Clad	6.5248
Architect Series	Sliding Patio Door	Head	Clad	6.5248
Designer Series	**Casement**	**All**	**Clad**	**4.1239**
Designer Series	**In-swing Patio Door**	**All**	**Clad**	**6.4792**
Designer Series	Out-swing Patio Door	All	Clad	9.2629
Designer Series	Sliding Patio Door	Jamb	Clad	6.5248
Designer Series	Sliding Patio Door	Head	Clad	6.5248
Proline	**Casement**	**All**	**Clad**	**4.1239**
Proline	In-swing Patio Door	All	Clad	8.0055
Proline	Sliding Patio Door	Jamb	Clad	7.5874
Proline	Sliding Patio Door	Head	Clad	6.6263
Pella	In-swing Entry Door	All	Clad	6.7557
Pella	Out-swing Entry Door	All	Clad	9.2338
Pella	In-swing Entry Door	All	Wood	6.7557

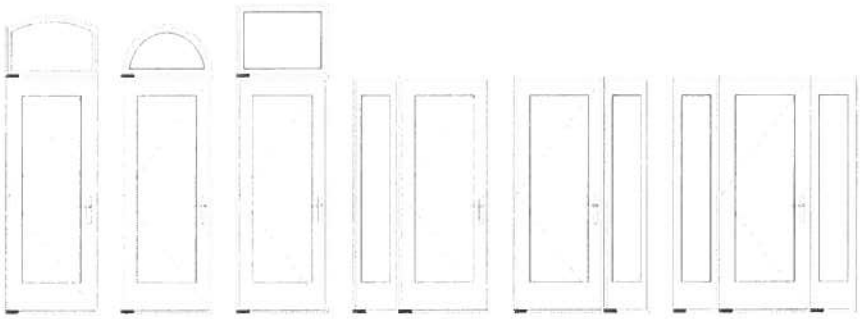
MOE_Wood (x10^6 psi)

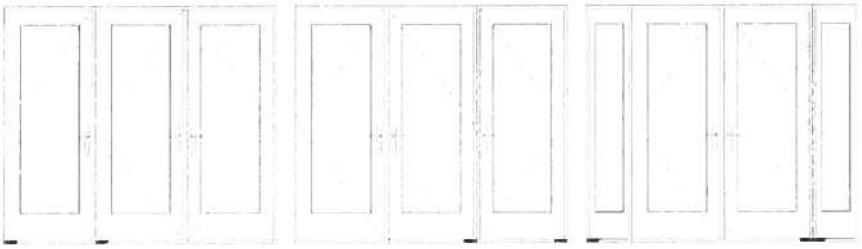
Discussion:

1). Frame Section Properties above provided by Pella Corporation.
2). Ixx is moment of Inertia about axis of bending of the mulled configuration , Ymax is the maximum distance from "X" axis to outer fibers of the section in the "y" direction. Zx is section modulus = Ixx / y max. A is area.
3). The configuration with the lowest I and Z will envelope all other configurations. A is relatively the same for all, except the DS radius, therefore will not be deciding factor.
4). Based on the above comparison of sections the casement jamb is the worst case.
5). Comparison above based on section properties of the combined jamb sections only.

THE FOLLOWING CONFIGURATIONS ARE EXAMPLES IN THIS REPORT

2-Way





FL #	FL11651-R3
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	Gulf Coast Supply & Manufacturing, LLC.
Address/Phone/Email	4020 S. W. 449th Street Horseshoe Beach, FL 32648 (352) 498-0778 info@gulfcoastsupply.com
Authorized Signature	Eng David info@gulfcoastsupply.com
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Address/Phone/Email	14429 SW 2nd Pl Ste G30 Newberry, FL 32669 (352) 498-0778 info@gulfcoastsupply.com
Quality Assurance Representative	David Eng
Address/Phone/Email	14429 SW 2nd Pl Ste G30 Newberry, FL 32669 (352) 498-0778 david.eng@gulfcoastsupply.com
Category	Roofing
Subcategory	Metal Roofing
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Daniel S. Kuhn
Florida License	PE-75519
Quality Assurance Entity	Keystone Certifications, Inc.
Quality Assurance Contract Expiration Date	04/12/2024
Validated By	Locke Bowden P.E. Validation Checklist - Hardcopy Received
Certificate of Independence	FL11651_R3_COI_Cert of Independence_2017-10-09.pdf

Referenced Standard and Year (of Standard)

Standard	Year
FM 4471	1992
TAS 100	1995
TAS 110	2000
TAS 125	2003
UL 1897	2012
UL 580	2006

Equivalence of Product Standards
Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	10/10/2017
Date Validated	10/12/2017
Date Pending FBC Approval	10/17/2017
Date Approved	12/12/2017

Summary of Products

Go to Page GO!

FL #	Model, Number or Name	Description
11651.1	0.032" Aluminum 5V Crimp	Min 0.032" 5 V Crimp Aluminum Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-108.5PSF **Other:** -108.5 psf @ 12" o.c. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_1_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_1_R3_0325vCrimp_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.2	0.032" Aluminum Gulf Lok	Min 0.032" Aluminum Gulf Lok 16" Wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-116.0PSF **Other:** -52.5 psf @ 5 3/16" o.c. fastener spacing. -116.0 psf @ 5 3/16" o.c. fastener spacing. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_2_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_2_R3_032GulfLok_16_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.3	1" 24ga. Gulf Snap	1" Gulf Snap 24 Ga. 17" wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/--131.0PS **Other:** -67.3 psf @ 24" o.c. clip spacing. -131 psf @ 6" o.c. clip spacing. Install per manufacturers details. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_3_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_3_R3_1_24GulfSnap_17_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.4	1" 24ga. VersaLoc	1" VersaLoc 24ga 16.5" Wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-138.5PSF **Other:** -71 psf @ 24" o.c. clip spacing. -138.5 psf @ 6" o.c. clip spacing. Install per manufacturers details. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_4_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_4_R3_24VersaLoc_SR_16.5_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.5	1" VersaLoc .032" Aluminum	1" VersaLoc min .032" Aluminum over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-101.0PSF **Other:** -63.3 psf @ 24" o.c. clip spacing. -101.0 psf @ 6" o.c.		**Installation Instructions** FL11651_R3_II_FL11651_5_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports**

clip spacing. Install per manufacturers details. For use in HVHZ Zones.		FL11651_R3_AE_FL11651_5_R3_1in_032VersaLoc_SR_16_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.6	1.5" 24ga. Gulf Snap	1.5" Gulf Snap 24ga. 16" Wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-116.0PSF **Other:** -86.0 psf @ 24" o.c. clip spacing. -108.5 psf @ 12" o.c. clip spacing. -116.0 psf @ 6" o.c. clip spacing. Install per manufacturers detals. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_6_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_6_R3_1.5_24GulfSnap_16_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.7	1.5" 24ga. VersaLoc	1.5" VersaLoc min 24ga. 16" wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-123.5PSF **Other:** -59.75 psf @ 24" o.c. clip spacing. -123.5 psf @ 12" o.c. clip spacing. Install per manufacturers details. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_7_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_7_R3_1.5_24VersaLoc_16_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.8	2" 24ga. MegaLoc	Min 24 Ga. 2" MegaLoc 18" wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-108.5PSF **Other:** -71.0 psf @ 24" o.c. clip spacing. -108.5 psf @ 12" o.c. clip spacing. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_8_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_8_R3_24VersaLoc_18_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.9	24 Ga. Gulf Lok	Min 24 Ga. Gulf Lok 16" Wide over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-96.7PSF **Other:** -81.75 psf @ 10-1/4" o.c. fastener spacing. -96.76 psf @ 5-1/8" o.c. fastener spacing. -121.75 psf @ 5-1/8" fastener spacing. -161 psf @ 5-1/8" fastener spacing. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_9_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_9_R3_24GulfLok_16_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.10	24 Ga. Gulf Seam	Min 24 Ga. Gulf Seam 16" Wide Roof Panel over 1x4 Wood Purlins over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-93.5PSF **Other:** -93.5 psf @ 18" o.c. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_10_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_10_R3_24GulfSeam_16_1x4_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.11	24 Ga. Gulf Seam	Min 24 Ga. Gulf Seam, 1 3/4" Snap Lock, 18" Wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-108.5PSF **Other:** -69.25 psf @ 24" o.c. clip spacing. -108.5 psf @ 12" o.c. clip spacing. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_11_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_11_R3_24GulfSeam_18_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.12	26 Ga. 5V Crimp	Min 26 Ga. 5V Crimp Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes		**Installation Instructions** FL11651_R3_II_FL11651_12_R3_Metal_Roof_Panel_Detail-

Approved for use outside HVHZ: Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-156.5PSF **Other:** -108.5 psf @ 12" o.c. fastener spacing. -156.5 psf @ 6" o.c. fastener spacing. Install per manufacturers details. For use in HVHZ Zones.		signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_12_R3_26SvCrimp_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.13	26 Ga. 5V Crimp	Min 26 Ga. 5V Crimp over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-131.PSF **Other:** -94.25 psf @ 16" o.c. fastener pattern. -131.0 psf @ 16" o.c. fastener pattern. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_13_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_13_R3_26SvCrimp_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.14	26 Ga. 5V Crimp	Min 26 Ga. 5V Crimp Roof Panel over 1x4 Wood Purlins over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-156.5PSF **Other:** -108.5 psf @ 12" o.c. fastener spacing. -156.5 psf @ 6" o.c. fastener spacing. Install per manufacturers details. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_14_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_14_R3_26SvCrimp_1x4_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.15	26 Ga. Gulf Lok	Min 26 Ga. Gulf Lok 16" Wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-161.0PSF **Other:** -63.5 psf @ 5 3/16" o.c. fastener spacing. -121.75 psf @ 5 3/16" spacing. -161.0 psf @ 5 3/16" o.c. fastener spacing. Install per manufacturers details. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_15_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_15_R3_26GulfLok_16_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.16	26 Ga. Gulf Lok	Min 26 Ga. Gulf Lok 16" Wide Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-63.5PSF **Other:** -63.5 psf @ 5 3/16" o.c. fastener spacing. -121.75 psf @ 5 3/16" fastener spacing. -161 psf @ 5 3/16" fastener spacing. Install per manufacturers details. Not for use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_16_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_16_R3_26GulfLok_16_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.17	26 Ga. GulfPBR	Min 26 Ga. Gulf PBR Roof Panel over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-154.7PSF **Other:** -59.25 psf @ 24" o.c. fastener pattern. -154.75 psf @ 12" o.c. fastener pattern. Install per manufacturer details. Not for use in HVHZ		**Installation Instructions** FL11651_R3_II_FL11651_17_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_17_R3_26GulfPBR_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes
11651.18	26 Ga. GulfPBR	Min 26 Ga. GulfPBR Roof Panel over 1x4 Wood Purlins over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-151.7PSF **Other:** -100.5 psf @ 24" o.c. fastener spacing. -151.75 psf @ 12" fastener spacing. Install per manufacturer's details. For use in HVHZ Zones		**Installation Instructions** FL11651_R3_II_FL11651_18_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_18_R3_26GulfPBR_1x4_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.19	26 Ga. GulfPBR	Min 26 Ga. GulfPBR over 15/32" Plywood

Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-154.7PSF **Other:** -60.5 psf @ 24" o.c. fastener spacing. -154.75 psf @ 12" o.c. fastener spacing. Install per manufacturer's details. For use in HVHZ Zones.		**Installation Instructions** FL11651_R3_II_FL11651_19_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_19_R3_26GulfPBR_15-32Plywood_HVHZ-signed.pdf Created by Independent Third Party: Yes
11651.20	26 Ga. GulfPBR	Min 26 Ga. GulfPBR over 1x4 Wood Purlins over 15/32" Plywood
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-151.7PSF **Other:** -94.25 psf @ 24" o.c. fastener spacing. -151.75 psf @ 12" fastener spacing. Install per manufacturer's details. Not for use in HVHZ Zones		**Installation Instructions** FL11651_R3_II_FL11651_20_R3_Metal_Roof_Panel_Detail-signed.pdf Verified By: Dan Kuhn, P.E. 75519 Created by Independent Third Party: Yes **Evaluation Reports** FL11651_R3_AE_FL11651_20_R3_26GulfPBR_1x4_15-32Plywood_NonHVHZ-signed.pdf Created by Independent Third Party: Yes

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METAL ROOF PANEL DETAIL

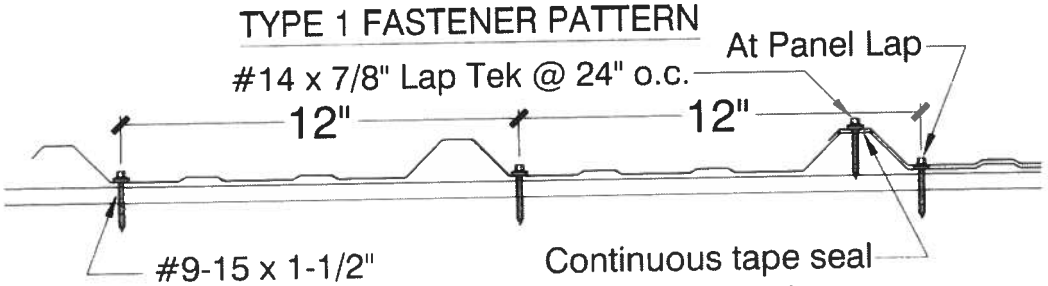
GulfCoast SUPPLY & MANUFACTURING

GULFPBR™

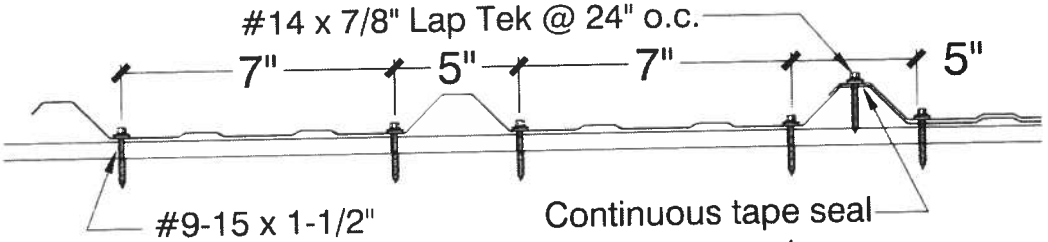
26 GUAGE GULFPBR™ PANEL OVER 15/32" PLYWOOD

FLORIDA PRODUCT APPROVAL **NO. 11651.19 R3**

TYPE 1 FASTENER PATTERN



TYPE 2 FASTENER PATTERN



DANIEL S. KUHN
LICENSE
No. 75519
STATE OF FLORIDA
PROFESSIONAL ENGINEER

10/05/2017

FL# 11651.19 R3 • OCTOBER 5, 2017

METAL ROOF PANEL DETAIL

KUHN ENGINEERING, LLC
1200 CLINT MOORE RD. SUITE 9, BOCA RATON, FL 33487 • FL COA #30464

Product Approval
USER: Public User

FL #	FL10456-R4
Application Type	Revision
Code Version	2017
Application Status	Approved
	*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	
Product Manufacturer	Simpson Strong-Tie Co.
Address/Phone/Email	2221 Country Lane McKinney, TX 75070 (800) 999-5099 Ext 3027 kcullum@strongtie.com
Authorized Signature	Keith Cullum kcullum@strongtie.com
Technical Representative	Keith Cullum
Address/Phone/Email	2221 Country Lane McKinney, TX 75069 (800) 999-5099 Ext 3027 kcullum@strongtie.com
Quality Assurance Representative	Shelby Short
Address/Phone/Email	5956 W. Las Positas Boulevard Pleasanton, CA 94588 (800) 999-5099 sshort@strongtie.com
Category	Structural Components
Subcategory	Wood Connectors
Compliance Method	Evaluation Report from a Product Evaluation Entity
Evaluation Entity	ICC Evaluation Service, LLC
Quality Assurance Entity	Benchmark Holdings, L.L.C.
Quality Assurance Contract Expiration Date	12/31/2019
Validated By	Ted Berman, PE
	✓ Validation Checklist - Hardcopy Received
Certificate of Independence	FL10456_R4_COI_ICC-ES Cert of Independence 2017-12-06.pdf

Referenced Standard and Year (of Standard)

Standard	Year
AISI S100	2012
ANSI/AWC NDS	2015
ASTM D7147	2005

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option C
Date Submitted	12/13/2017
Date Validated	12/17/2017
Date Pending FBC Approval	
Date Approved	12/19/2017

Summary of Products

FL #	Model, Number or Name	Description
10456.1	DSP, SSP	Stud to Plate tie
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** In HVHZ, if using DSP with 10dx1.5" nails to sill plate, DSP with 10d common nails in SPF/HF lumber, or SSP to resist roof uplift provide supplemental connection to achieve minimum 700 lbs. uplift		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.2	H1, H10A, H10-2, H2.5A, H3, H4, H5, H6, H7Z	Hurricane Ties
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** In HVHZ, if using H1, H2.5A, H3, H4, or H5 to resist roof uplift, 2 connectors or supplemental connection must be used to achieve min. 700 lbs. uplift.		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.3	HGT-2, HGT-3, HGT-4	Heavy Girder Tiedown
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.4	HS24	Hurricane Tie
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** In HVHZ, if used to resist roof uplift provide supplemental connection to achieve minimum 700 lbs. uplift		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.5	HTS16, HTS20, HTS24, HTS28, HTS30, HTS30C	Heavy Twist Strap
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.6	LFTA	Light Floor Tie Anchor
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.7	LTS12, LTS16, LTS18, LTS20	Light Twist Strap
Limits of Use **Approved for use in HVHZ:** Yes		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf

Approved for use outside HVHZ: Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** In HVHZ, if used to resist roof uplift provide supplemental connection to achieve minimum 700 lbs. uplift		Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.8	MTS12, MTS16, MTS18, MTS20, MTS30	Medium Twist Strap
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.9	RSP4	Stud to Plate Connector
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** In HVHZ, if used to resist roof uplift provide supplemental connection to achieve minimum 700 lbs. uplift		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.10	SP1, SP2, SP4, SP6, SP8	Stud Plate Tie
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** In HVHZ, if using SP1 to resist roof uplift provide supplemental connection to achieve minimum 700 lbs. uplift		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf
10456.11	SPH4, SPH6, SPH8	Heavy Stud Plate Tie
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:**		**Installation Instructions** FL10456_R4_II_ESR-2613.pdf Verified By: ICC Evaluation Service, LLC Created by Independent Third Party: **Evaluation Reports** FL10456_R4_AE_ESR-2613.pdf

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

SECTION: 06 05 23—WOOD, PLASTIC, AND COMPOSITE FASTENINGS

REPORT HOLDER:

SIMPSON STRONG-TIE COMPANY INC.

5956 WEST LAS POSITAS BOULEVARD
PLEASANTON, CALIFORNIA 94588

EVALUATION SUBJECT:

SIMPSON STRONG-TIE® HURRICANE AND SEISMIC STRAPS AND TIES FOR WOOD FRAMING

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DIVISION: 06 00 00—WOOD, PLASTICS, AND COMPOSITES
Section: 06 05 23—Wood, Plastic, and Composite Fastenings

REPORT HOLDER:

SIMPSON STRONG-TIE COMPANY INC.
5956 WEST LAS POSITAS BOULEVARD
PLEASANTON, CALIFORNIA 94588
(800) 925-5099
www.strongtie.com

EVALUATION SUBJECT:

SIMPSON STRONG-TIE® HURRICANE AND SEISMIC STRAPS AND TIES FOR WOOD FRAMING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)

Property evaluated:

Structural

2.0 USES

The Simpson Strong-Tie® hurricane and seismic straps and ties described in this report are used as wood framing connectors in accordance with Section 2304.10.3 of the 2015 IBC and Section 2304.9.3 of the 2012, 2009 and 2006 IBC. The products may also be used in structures regulated under the IRC when an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION

3.1 General:

The Simpson Strong-Tie hurricane and seismic straps and ties recognized in this report are installed to resist design forces on wood-frame construction resulting from the application of the most critical effects of the load combinations prescribed by code that include wind or seismic loads.

3.1.1 Hurricane Ties: Hurricane ties are used to anchor wood rafters or joists to wood wall plates or studs or to anchor wood studs to wood sill plates. The H6 and H7Z ties are formed from No. 16 gage galvanized steel; the H1, H2.5A, H3, H5, H10A, and H10-2 ties are formed from No. 18 gage galvanized steel; and the H4 tie is formed from No. 20 gage galvanized steel. See Table 1 for tie model numbers, tie dimensions, fastener schedules, and allowable loads. See Figures 1a and 1b for illustrations of the hurricane ties recognized in this report, and Figure 1c for illustrations of installation configurations with designated allowable load directions.

3.1.2 HS24 Hurricane Tie: The HS24 hurricane tie anchors wood rafters or trusses to wood wall top plates. The HS24 connector is formed from No. 18 gage galvanized steel. See Table 2 for required fasteners and allowable loads. See Figure 2 for a drawing of the HS24 tie and a typical installation detail.

3.1.3 LTS, MTS, and HTS Series Twist Straps: The LTS, MTS, and HTS series twist straps are used to anchor wood trusses or rafters to wood wall double top plates, wood studs, wood beams, or wood rim boards. The LTS, MTS, and HTS series twist straps are formed from No. 18, No. 16, and No. 14 gage galvanized steel, respectively. See Table 3 for strap model numbers, overall strap lengths, required fasteners, and allowable uplift loads when installed with different fastener schedules. See Figure 3 for a drawing of an LTS12 twist strap and two typical MTS strap installations.

3.1.4 LFTA Light Floor Tie Anchor: The LFTA light floor tie anchor is used as a floor-to-floor tension tie and is formed from No. 16 gage galvanized steel. See Table 4 for anchor tie dimensions, required fasteners, and the assigned allowable uplift load. See Figure 4 for a drawing of the LFTA connector.

3.1.5 SP and SPH Series Stud Plate Connectors: The SP1 connector fastens one edge of a wood stud to the contiguous edge of a wood sill plate, and the SP2 connector fastens to one side of a wood double top plate and to the contiguous edge of a wood stud. The SP4, SP6, SP8, SPH4, SPH6, and SPH8 are $1^1/_4$-inch-wide (32 mm) U-shaped straps with a horizontal portion that bears against the wood wall top plates or sill plates and two vertical legs that are nailed to the edges of a wood stud. The SP and SPH connectors are fabricated from No. 20 and No. 18 gage galvanized steel, respectively. See Table 5 for SP and SPH models, connector dimensions, required fasteners, and allowable uplift loads. See Figure 5 for drawings of the SP1 and SP2 connector, and of typical stud-to-plate connection details for the SP1, SP2, SP4, and SPH4 connectors.

3.1.6 RSP4 Reversible Stud Plate Ties: The RSP4 tie plates are used to connect a nominally 2-inch-wide wood stud to either a top or sill plate of a wood framed wall. The RSP4 tie connector is fabricated from No. 20 gage galvanized steel. See Table 6 for required fasteners and allowable loads. See Figure 6a for a drawing of the RSP4 connector showing overall dimensions; Figure 6b for a drawing of a typical RSP4 installation connecting a wood double top plate to a wood stud; and Figure 6c for a typical RSP4 installation connecting a wood stud to a wood sill plate.

3.1.7 SSP and DSP Stud Plate Connectors: The SSP stud-to-plate connector is used to provide a positive connection between a single wood stud and the top or sill plate of the same wood wall, and the DSP stud-to-plate connector is used to provide a positive connection between a double wood stud and the wood wall top or sill plate of the same wood wall. The SSP and DSP connectors are fabricated from No. 18 gage galvanized steel. See Table 7 for required fasteners and allowable uplift loads. See Figure 7 for drawings of the SSP and DSP connectors showing overall dimensions; a drawing of an SSP installation connecting a stud to a sill plate; and a drawing of a DSP installation connecting a double wood stud assembly to a top plate.

3.1.8 HGT Heavy Girder Tiedown Brackets: The HGT heavy girder tiedown brackets are used to provide a positive connection between wood roof beams or multi-ply wood roof trusses and wood posts vertically aligned to support the end reaction of the beam or truss member. The HGT tiedown connector is a U-shaped bracket that is installed over the top chord of the roof truss having a slope from 3:12 (14 degrees) to 8:12 (34 degrees). Other components required for the connection, such as the anchor rods and hold-down or tie-down devices, that must be used to form a complete load path to resist design uplift forces from their point of origin to the load-resisting elements, that is, the vertically aligned supporting wood post, must be designed and specified by the registered design professional. The HGT tiedown brackets are fabricated from No. 7 gage steel, and are supplied with insert plates and crescent washers. See Table 8 for tiedown connector models, connector dimensions, fastener schedules, and allowable uplift loads. See Figure 8 for a drawing of the HGT-2 tiedown connector.

3.2 Materials:

3.2.1 Steel: Unless otherwise noted, the connectors described in this report are fabricated from ASTM A653, SS designation, Grade 33, galvanized steel with a minimum yield strength, Fy, of 33,000 psi (227 MPa) and a minimum tensile strength, Fu, of 45,000 psi (310 MPa). The HTS twist straps, the SSP and DSP stud-to-plate ties, and the H2.5A hurricane tie are fabricated from ASTM A653, SS designation, Grade 40, steel with a minimum yield strength of 40,000 psi (275 MPa) and a minimum tensile strength of 55,000 psi (379 MPa).

The body of the HGT heavy girder tiedown bracket is fabricated from ASTM A1011, SS designation, Grade 33, hot rolled steel with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 52,000 psi (358 MPa), and the crescent washers of the HGT bracket are fabricated from ASTM A36 steel with a minimum yield strength of 36,000 psi (248 MPa) and a minimum tensile strength of 58,000 psi (399 MPa).

Base-metal thicknesses for the connectors in this report are as follows:

NOMINAL THICKNESS (gage)	MINIMUM BASE-METAL THICKNESS (inch)
No. 3	0.2285
No. 7	0.1705
No. 10	0.1275
No. 14	0.0685
No. 16	0.0555
No. 18	0.0445
No. 20	0.0335

For **SI:** 1 inch = 25.4 mm.

The galvanized connectors have a minimum G90 zinc coating specification in accordance with ASTM A653. Some models (designated with a model number ending with Z) are available with a G185 zinc coating specification in accordance with ASTM A653. Some models (designated with a model number ending with HDG) are available with a hot-dip galvanization, also known as "batch" galvanization, In accordance with ASTM A123, with a minimum specified coating weight of 2.0 ounces of zinc per square foot of surface area (600 g/m2), total for both sides. Model numbers in this report do not include the Z or HDG ending, but the information shown applies.

The HGT Heavy Girder Tiedown Brackets have a painted finish and may also be available with the HDG finish.

The lumber treater or holder of this report (Simpson Strong-Tie Company) should be contacted for recommendations on minimum corrosion resistance of steel connectors in contact with the specific proprietary preservative treated or fire retardant treated lumber.

3.2.2 Wood: Supporting wood members to which these connectors are fastened must be solid sawn lumber, glued-laminated lumber, or engineered lumber [such as Laminated Veneer Lumber (LVL), Parallel Strand Lumber (PSL), and Laminated Strand Lumber (LSL)] having dimensions consistent with the connector dimensions shown in this report. Unless otherwise noted, supporting wood members and supported members must have an assigned minimum specific gravity of 0.50 (minimum equivalent specific gravity of 0.50 for engineered lumber), except as noted in Table 5 for the SPH stud plate tie connectors, which provides values for which lumber members having assigned minimum specific gravities of 0.50 and 0.55 are required; and Table 7 for the SSP and DSP stud-to-plate tie connectors, which permits lumber having assigned minimum specific gravities of 0.50 and 0.43. The lumber used with the connectors described in this report must have a maximum moisture content of 19 percent (16 percent for engineered lumber) except as noted in Section 4.1.

The thickness of the wood members must be equal to or greater than the length of the fasteners specified in the tables in this report, except if noted otherwise in the tables and accompanying footnotes in this report, or as required by wood member design, whichever controls.

3.2.3 Fasteners: Bolts, at a minimum, must comply with ASTM A36 or A307. Nails used for connectors, straps, and ties described in this report must comply with ASTM F1667 and have the following minimum dimensions and bending yield strengths (Fyb):

FASTENERS	NAIL DIAMETER (inch)	NAIL LENGTH (inches)	F_{yb} (psi)
8d × 1½	0.131	1½	100,000
8d	0.131	2½	100,000
10d × 1½	0.148	1½	90,000
10d	0.148	3	90,000

For **SI:** 1 inch = 25.4 mm.

Fasteners used in contact with preservative treated or fire retardant treated lumber must comply with Section 2304.10.5 of the 2015 IBC, Section 2304.9.5 of the 2012, 2009 and 2006 IBC, Section R317.3 of the 2015, 2012 and 2009 IRC or Section R319.3 of the 2006 IRC, as applicable. The lumber treater or this report holder (Simpson Strong-Tie Company) should be contacted for recommendations on minimum corrosion resistance of fasteners and connection capacities of fasteners used with the specific proprietary preservative treated or fire retardant treated lumber.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The tabulated allowable loads shown in this report are based on allowable stress design (ASD) and include the load duration factor, C_D, corresponding with the applicable loads in accordance with the *National Design Specification® for Wood Construction* (NDS).

Tabulated allowable loads apply to products connected to wood used under dry conditions and where sustained temperatures are 100°F (37.8°C) or less. When products are installed to wood having a moisture content greater than 19 percent (16 percent for engineered wood products), or when wet service is expected, the allowable loads must be adjusted by the wet service factor, CM, specified in the NDS. When connectors are installed in wood that will experience sustained exposure to temperatures exceeding 100°F (37.8°C), the allowable loads in this report must be adjusted by the temperature factor, Ct, specified in the NDS.

Connected wood members must be analyzed for load-carrying capacity at the connection in accordance with the NDS.

4.2 Installation:

Installation of the connectors must be in accordance with this evaluation report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

4.3 Special Inspection:

4.3.1 Main Wind-force-resisting Systems under the IBC: Periodic special inspection must be conducted for components within the main wind-force-resisting system, where required in accordance with Sections 1704.2 and 1705.11 of the 2015 IBC, Sections 1704.2 and 1705.10 of the 2012 IBC, Sections 1704 and 1706 of the 2009 IBC, and Section 1704 of the 2006 IBC.

4.3.2 Seismic-force-resisting Systems under the IBC: Periodic special inspection must be conducted for components within the seismic-force-resisting system, in accordance with Sections 1704.2 and 1704.12 of the 2015 IBC, Sections 1704.2 and 1705.11 of the 2012 IBC, and Sections 1704 and 1707 of the 2009 and 2006 IBC.

4.3.3 Installations under the IRC: Special inspections are normally not required for connectors used in structures regulated under the IRC. However, for components and systems requiring an engineered design in accordance with IRC Section R301, periodic special inspection must be in accordance with Sections 4.3.1 and 4.3.2 of this report.

5.0 CONDITIONS OF USE

The Simpson Strong-Tie Hurricane and Seismic Straps and Ties described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The connectors must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. A copy of the instructions must be available at the jobsite at all times during installation.

5.2 Calculations showing compliance with this report must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statues of the jurisdiction in which the project is to be constructed.

5.3 Adjustment factors noted in Section 4.1 and the applicable codes must be considered, where applicable.

5.4 Connected wood members and fasteners must comply, respectively, with Sections 3.2.2 and 3.2.3 of this report.

5.5 Use of connectors with preservative or fire retardant treated lumber must be in accordance with Section 3.2.1 of this report. Use of fasteners with preservative or fire retardant treated lumber must be in accordance with Section 3.2.3 of this report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Joist Hangers and Similar Devices (AC13), dated February 2017.

7.0 IDENTIFICATION

The products described in this report are identified with a die-stamped label or adhesive label indicating the name of the manufacturer (Simpson Strong-Tie), the model number, and the number of an index evaluation report (ESR-2523) that is used as an identifier for the products recognized in this report.

TABLE 1—HURRICANE TIES

MODEL NO.	FASTENERS (Quantity-Type)			ALLOWABLE LOADS[1,2] (lbs)			
	To Rafter	To Plates	To Stud	Connection Configurations[3]	Uplift[4,5] C_D=1.6	Lateral[6,7] C_D=1.6	
						F_1	F_2
H1	6–8d x $1^1/_2$	4–8d	—	1	545	510	190
H10A	9–10d x $1^1/_2$	9–10d x $1^1/_2$	—		1,040	565	285
H10-2	6–10d	6–10d	—		655	430	355
H2.5A	5–8d	5–8d	—	2	565	110	110
H3	4–8d	4–8d	—		435	210	170
H5	4–8d	4–8d	—		440	100	225
H4	—	4–8d	4–8d	3	330	—	—
	4–8d	4–8d	—	4	330	140	175
H6	—	8–8d	8–8d	5	1,230	—	—
H7Z	4-8d	2–8d	8–8d	6	830	410	—

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

[1]Allowable loads are for one anchor installed to a minimum nominal 2x supported and minimum nominal 2x supporting wood member. A rafter minimum actual thickness of $2^1/_2$ inches must be used when framing anchors are installed on each side of the rafter and on the same side of the plate.

[2]Allowable simultaneous loads in more than one direction on a single connector must be evaluated as follows:
Design Uplift / Allowable Uplift +
Design Lateral Parallel to Plate / Allowable Lateral Parallel to Plate +
Design Lateral Perpendicular to Plate / Allowable Lateral Perpendicular to Plate ≤ 1.0.
The three terms in the unity equation consider all possible forces that the hurricane tie may be designed and installed to resist. The number of terms that must be considered for simultaneous loading is determined by the registered design professional and is dependent on the method of calculating wind forces and the assumed load path that the connector is designed to resist.

[3]"Connection Configurations" shown in Figure 1c (next page) indicate the load directions F_1 and F_2, and are details showing connector installations on the outside of the wall for clarity. Installation on the inside of the wall is acceptable to achieve the tabulated allowable loads.

[4]Connections in the same area (i.e. truss to plate connector and plate to stud connector) must be on installed on the same side of the wall to achieve the tabulated allowable uplift loads and ensure a continuous load path.

[5]Allowable uplift loads have been increased for wind or earthquake loading, and no further increase is allowed. Allowable loads must be reduced when other load durations govern.

[6]Allowable lateral loads in the F_1 direction must not be used to replace diaphragm boundary members or nailing or replace solid blocking required by code to laterally support the ends of joists/rafters.

[7]Additional shear transfer elements must be considered the connector installation induces cross grain bending or tension of the truss or rafter members.

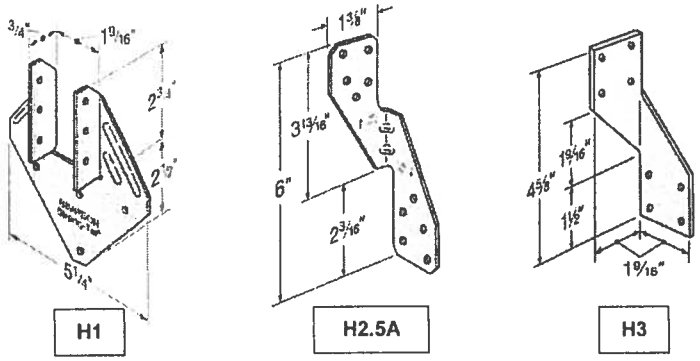


FIGURE 1a—H1, H2.5A, AND H3 HURRICANE TIES

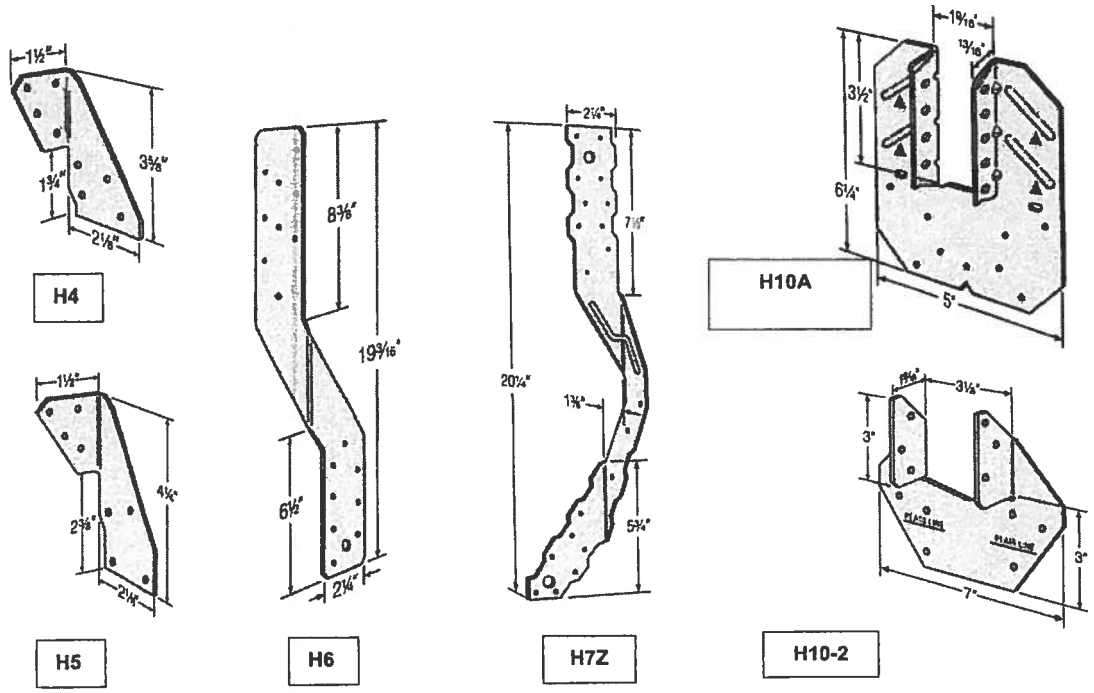


FIGURE 1b—H4, H5, H6, H7Z, H10A AND H10-2 HURRICANE TIES

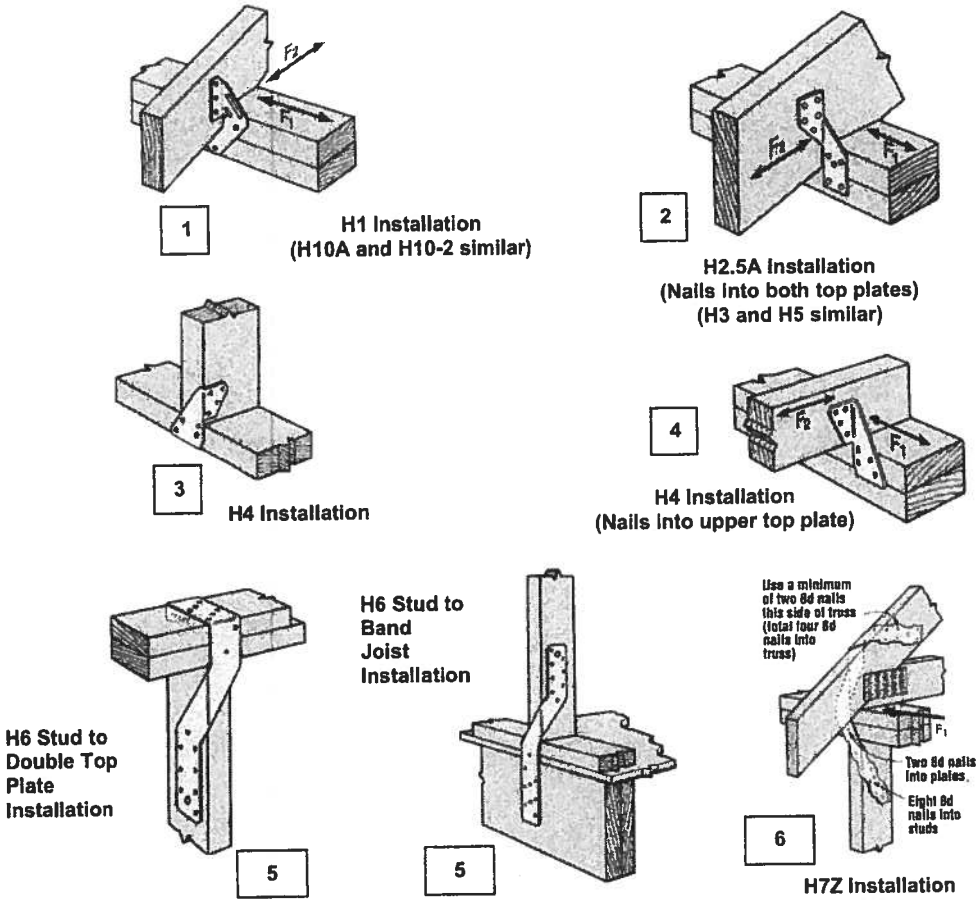


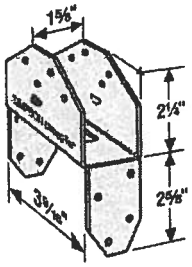
FIGURE 1c—CONNECTION CONFIGURATIONS OF HURRICANE TIE INSTALLATIONS SPECIFIED IN TABLE 1

TABLE 2—HS24 HURRICANE TIE

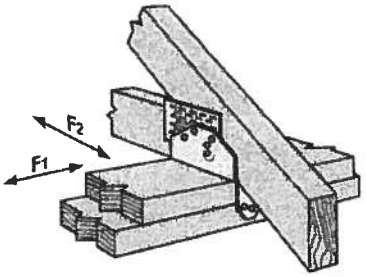
MODEL NO.	FASTENERS[1] (Quantity-Type)		ALLOWABLE LOADS (lbs) C_D=1.6		
	To Rafter or Truss	To Double Top Plate	Uplift[2]	Lateral[3,4,5]	
				F_1	F_2
HS24	8–8d x $1^1/_2$ & 2–8d (slant)	8–8d	605	645	1,100
	8–8d x $1^1/_2$	8–8d	625	625	680

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.5 N.

[1]"Slant" nailing refers to 8d common nails installed as toenails on each side of the connector. The nails must be driven through the connector at an angle approximately 30° with the rafter/truss member with the nail penetrating through the rafter/truss member into the wood double top plate.
[2]The uplift loads have been increased for wind or earthquake loading. No further increase is allowed. Allowable loads must be reduced when other load durations govern.
[3]Allowable lateral loads in the F_1 direction must not be used to replace diaphragm boundary members or nailing or replace solid blocking required by code to laterally support the ends of joists/rafters.
[4]Additional shear transfer elements must be considered the connector installation induces cross grain bending or tension of the truss or rafter member.
[5]F_1 load direction is parallel to plate, and F_2 load direction is perpendicular to plate.



HS24 Dimensions
U.S. Patents
5,603,580



HS24 Installation and Allowable Load Directions

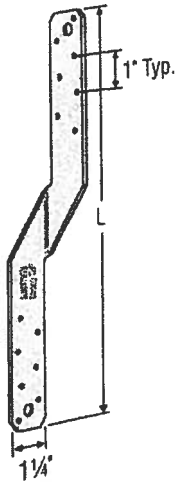
FIGURE 2—HS24 HURRICANE TIE

TABLE 3—LTS, MTS, AND HTS TWIST STRAPS

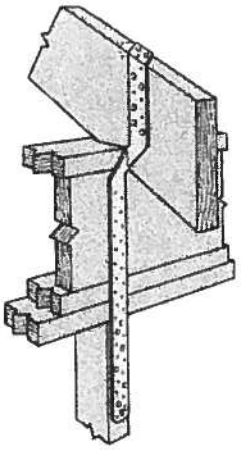
TWIST STRAP SERIES	MODEL NO.	STRAP LENGTH (In)	TOTAL QUANTITY OF FASTENERS[1]		ALLOWABLE UPLIFT LOADS[2,3] (lbs)	
			When Installed with 10d Common Nails	When Installed with 10dx1$^1/_2$ Common Nails	When Installed with 10d Common Nails	When Installed with 10dx1$^1/_2$ Common Nails
					C_D = 1.6	C_D = 1.6
LTS[4]	LTS12	12	12	12	660	600
	LTS16	16				
	LTS18	18				
	LTS20	20				
MTS[4]	MTS12	12	14	14	990	990
	MTS16	16				
	MTS18	18				
	MTS20	20				
	MTS30	30				
HTS[5]	HTS16	16	16	16	1,310	1,310
	HTS20	20	20	24	1,310	1,310
	HTS24	24				
	HTS28	28				
	HTS30	30				
	HTS30C	30				

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N

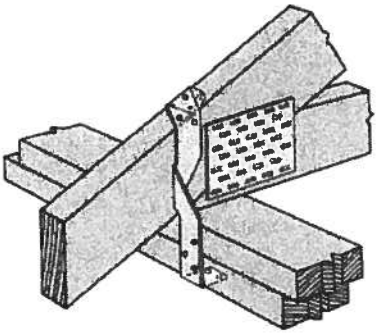
[1]Half of the fasteners must be installed on each end of the strap to achieve the allowable uplift load.
[2]Tabulated allowable uplift loads must be selected based on duration of load as permitted by the applicable building code.
[3]Tabulated allowable uplift loads have been increased for wind or earthquake loading. No further increase is allowed. Allowable loads must be reduced when other load durations govern.
[4]Each model of the LTS and MTS twist strap series (except for the MTS30) has more nail holes than the minimum quantity of nails specified in the table.
[5]HTS30C has the twist in the center of the strap length.



LTS12
(MTS and HTS Similar)



Typical MTS Installation – Rafter to Stud



Typical MTS Installation – Truss to Double Top Plate

FIGURE 3—TWIST STRAPS

TABLE 4—LFTA LIGHT FLOOR TIE ANCHOR[1]

MODEL NO.	LFTA ANCHOR DIMENSIONS (in)			FASTENERS[2] (Quantity–Type)	ALLOWABLE TENSION LOAD[3,4] (lbs) $C_D = 1.6$
	Strap Width (W)	Clear Span	Overall Length (L)		
LFTA	$2^1/_4$	17	$38^3/_8$	16–10d Common	1,325

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

[1]The LFTA anchor is used to transfer tension forces between vertically aligned wood studs across floor framing with floor joists having a maximum nominal depth of 12 inches.
[2]Half of the fasteners must be installed on each end of the strap to achieve the allowable uplift load.
[3]Tabulated allowable uplift loads must be selected based on duration of load as permitted by the applicable building code.
[4]Tabulated allowable uplift loads have been increased for wind or earthquake loading. No further increase is allowed. Allowable loads must be reduced when other load durations govern.

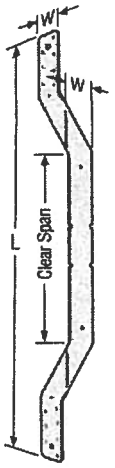


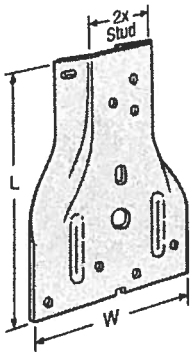
FIGURE 4—LFTA LIGHT FLOOR TIE ANCHOR

TABLE 5—SP AND SPH STUD PLATE TIES

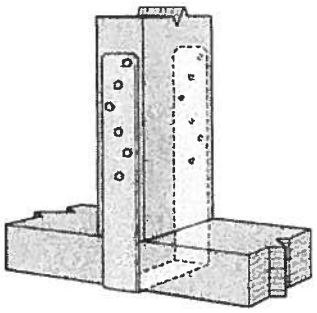
CONNECTOR SERIES	MODEL NO.	CONNECTOR DIMENSIONS (in)		FASTENERS[1] (Quantity-Type)		ALLOWABLE UPLIFT LOADS[2,3,4] (lbs)	
		(W)	(L)	To Stud	To Plate	C_D = 1.6	
						S.G.=0.50	S.G.=0.55
SP	SP1	—	—	6–10d	4–10d	555	555
	SP2	—	—	6–10d	6–10d	1,010	1,010
	SP4	$3^{9}/_{16}$	$7^{1}/_{4}$	6–10d x $1^{1}/_{2}$	—	825	825
				6–16d x $2^{1}/_{2}$	—	850	850
	SP6	$5^{9}/_{16}$	$7^{3}/_{4}$	6–10d x $1^{1}/_{2}$	—	825	825
				6–16d x $2^{1}/_{2}$	—	850	850
	SP8	$7^{5}/_{16}$	$8^{5}/_{16}$	6–10d x $1^{1}/_{2}$	—	825	825
				6–16d x $2^{1}/_{2}$	—	850	850
SPH	SPH4	$3^{9}/_{16}$	$8^{3}/_{4}$	10–10d x $1^{1}/_{2}$	—	—	1,040
				12–10d x $1^{1}/_{2}$	—	1,280	1,175
	SPH6	$5^{9}/_{16}$	$9^{1}/_{4}$	10–10d x $1^{1}/_{2}$	—	—	1,040
				12–10d x $1^{1}/_{2}$	—	1,280	1,415
	SPH8	$7^{5}/_{16}$	$8^{3}/_{8}$	10–10d x $1^{1}/_{2}$	—	—	1,175
				12–10d x $1^{1}/_{2}$	—	1,280	1,415

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

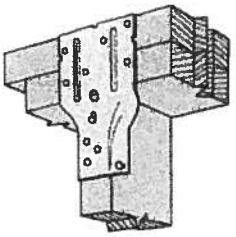
[1]For Models SP1 and SP2, one 10d common stud nail must be installed as a toenail. It must be driven through the connector at an angle approximately 30° with the stud with the nail penetrating through the stud into the wood sill plate. (See detail on this page entitled "SP1 Nailing Profile.")
[2]Tabulated allowable uplift loads must be selected based on duration of load as permitted by the applicable building code.
[3]Tabulated allowable uplift loads have been increased for wind or earthquake loading. No further increase is allowed. Allowable loads must be reduced when other load durations govern.
[4]Allowable uplift loads are given for wood assemblies consisting of lumber having an assigned specific gravity (S.G.) of 0.50, such as Douglas fir–larch, and 0.55, such as southern pine.



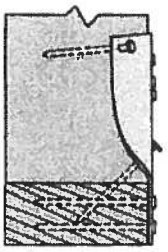
SP1/SP2



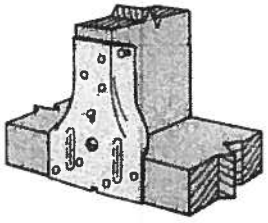
Typical SPH4 Installation: Stud to Wood Sill Plate (SP4 Similar)



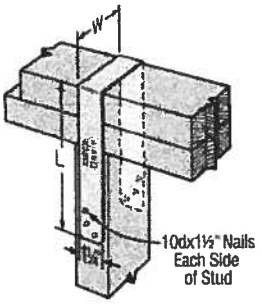
SP2 Installation: Stud to Double Top Plate



SP1 Nailing Profile



SP1 Installation: Stud to Sill Plate



Typical SP4 Installation: Double Top Plate to Stud (SPH Similar)

FIGURE 5—SP AND SPH STUD PLATE TIES

TABLE 6—RSP4 REVERSIBLE STUD PLATE CONNECTOR[1]

MODEL NO.	FASTENERS (Quantity-Type)		ALLOWABLE LOADS[2,3] (lbs) C_D = 1.6			
	To Stud	To Plate	Connection Configuration[4]	Uplift	Lateral[5]	
					F_1	F_2
RSP4	4–8d x $1^1/_2$	4–8d x $1^1/_2$	Stud to Double Top Plate	390	165	245
			Stud to Sill Plate	245	165	225

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

[1]Refer to Figure 6a for overall dimensions of the RSP4 plate connector.
[2]Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
[3]Tabulated allowable loads have been increased for wind or earthquake loading. No further increase is allowed. Allowable loads must be reduced when other load durations govern.
[4]Refer to Figure 6b and 6c for connection configurations.
[5]F_1 load direction is parallel to plate, and F_2 load direction is perpendicular to plate.

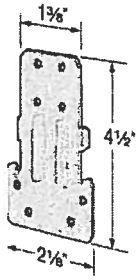


FIGURE 6a—RSP4 STUD PLATE CONNECTOR DIMENSIONS

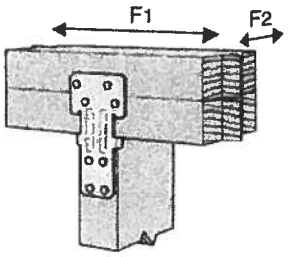


FIGURE 6b—RSP4 INSTALLATION: STUD TO DOUBLE TOP PLATE

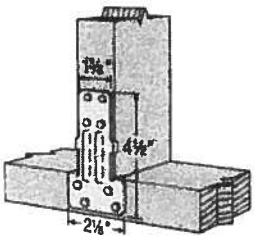


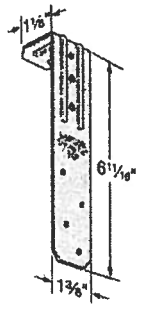
FIGURE 6c—RSP4 INSTALLATION: STUD TO SILL PLATE U.S. PATENT 5,697,725

TABLE 7—SSP AND DSP STUD PLATE TIE CONNECTORS

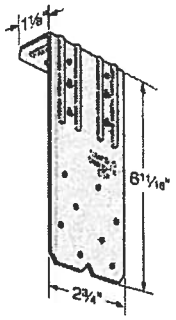
MODEL NO.	FASTENERS (Quantity-Type)			ALLOWABLE UPLIFT LOADS[1,2,3,4] (lbs) C_D=1.6		
	Studs	Double Top Plate	Sill Plate	Double Top Plate	Sill Plate	
				S.G. = 0.50	S.G. = 0.50	S.G. = 0.43
SSP	4–10d x $1^1/_2$	3–10d x $1^1/_2$	—	330	—	—
		—	1–10d x $1^1/_2$	—	395	310
	4–10d	3–10d	—	410	—	—
		—	1–10d	—	430	400
DSP	8–10d x $1^1/_2$	6–10d x $1^1/_2$	—	730	—	—
		—	2–10d x $1^1/_2$	—	620	515
	8–10d	6–10d	—	780	—	—
		—	2–10d	—	780	585

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

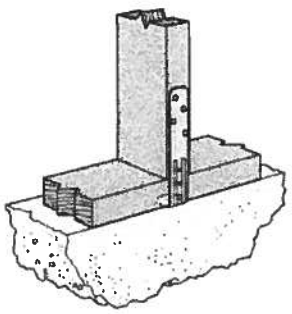
[1]Tabulated allowable uplift loads have been increased for wind or earthquake loading no further increase allowed. Reduce loads when other load durations govern.
[2]When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
[3]For Sill Plate allowable uplift loads, all round nail holes in the connector must be filled with the specified quantity and type of nails.
[4]For Double Top Plate allowable uplift loads, all round and triangular nail holes the tie connectors must be filled with the specified quantity and type of nails.



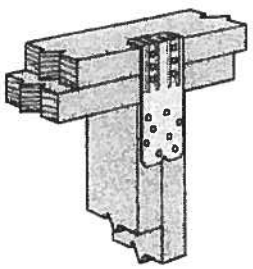
SSP U.S. Patent 7,065,932 7,356,973



DSP U.S. Patent 7,065,932 7,356,973



SSP Installation: Single Stud to Sill Plate



DSP Installation: Double Stud to Double Top Plate

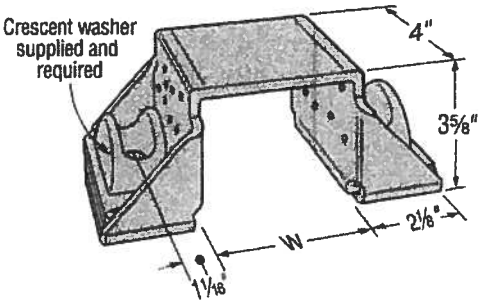
FIGURE 7—SSP/DSP STUD PLATE TIES

TABLE 8—HGT HEAVY GIRDER TIEDOWN CONNECTORS[1,2]

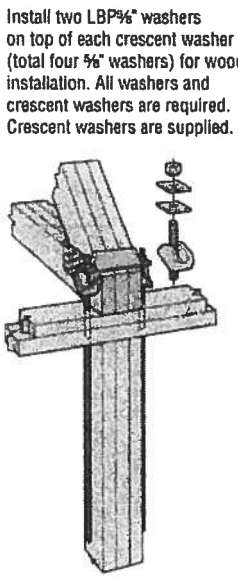
MODEL[3,4] NO.	HGT CONNECTOR WIDTH (W) (In.)	DISTANCE BETWEEN THREADED RODS (on center) (Inches)	FASTENERS (Quantity-Type)		ALLOWABLE UPLIFT LOADS[5,6] C_D=1.6 (lbs)
			Threaded Rod[7,8]	To Multi-ply Truss	
HGT-2	$3^{5}/_{16}$	$5^{3}/_{4}$	2–$^{5}/_{8}$" Dia.	16–10d	10,345
HGT-3	$4^{15}/_{16}$	$7^{3}/_{8}$	2–$^{5}/_{8}$" Dia.	16–10d	10,440
HGT-4	$6^{9}/_{16}$	9	2–$^{5}/_{8}$" Dia.	16–10d	11,395

For **SI:** 1 inch = 25.4mm, 1 lbs = 4.45 N.

[1]The HGT connector can accommodate top chord slopes from minimum 3:12 (14°) to maximum 8:12 (34°) and are provided with crescent washers for sloped top chord installations.
[2]All elements of the tie-down assembly (multi-ply trusses, vertically aligned wood studs/posts, and the full-height threaded rods) must be designed to resist applied loads.
[3]The HGT-2, HGT-3, and HGT-4 connector attaches to the heel joint of a two-ply, three-ply, and four-ply wood truss, respectively, where each ply thickness is nominal 2 inches.
[4]When the HGT-3 is used with a two-ply truss, shimming is required, and the shimming material must be similar (thickness and grade of lumber) as the truss member material. Additionally, the entire assembly must be designed by a registered design professional to act as one unit.
[5]Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
[6]The uplift loads have been increased for wind or earthquake loading with no further increase is allowed. Reduce loads when other load durations govern.
[7]Full-height threaded rods are shown in Figure 8 for illustration purposes only, as one method of transferring the design load from the HGT connector to the foundation. The threaded rod material specifications must be specified by the registered design professional.
[8]Two LBP $^{5}/_{8}$-inch washers must be installed on top of each crescent washer. LBP washers and crescent washers are required. Crescent washers are supplied with the connector. LBP$^{5}/_{8}$ washers are available from Simpson Strong-Tie Company, and are 2-inch square by $^{9}/_{64}$-inch thick galvanized steel washers with a center bolt hole to accommodate a $^{5}/_{8}$-inch diameter threaded bolt/rod.



HGT-2
(HGT-3 and HGT-4 similar)



Typical HGT-3 installation with full height threaded rod. The design of the threaded rod, including any necessary hardware or shrinkage compensating devices, is outside the scope of this report.

FIGURE 8—HGT HEAVY GIRDER TIEDOWN CONNECTOR

FL #	FL1999-R6
Application Type	Revision
Code Version	2017
Application Status	Approved *Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	
Product Manufacturer	Alpine
Address/Phone/Email	Suite 305 6750 Forum Drive Orlando, FL 32821 (321) 710-3377 slewis@alpineitw.com
Authorized Signature	Stuart Lewis slewis@alpineitw.com
Technical Representative	Stuart Lewis
Address/Phone/Email	1950 Marley Drive Haines City, FL 33844 slewis@alpeng.com
Quality Assurance Representative	Stuart Lewis
Address/Phone/Email	1950 Marley Drive Haines City, FL 33844 slewis@alpeng.com
Category	Structural Components
Subcategory	Truss Plates
Compliance Method	Evaluation Report from a Product Evaluation Entity
Evaluation Entity	ICC Evaluation Service, LLC
Quality Assurance Entity	Benchmark Holdings, L.L.C.
Quality Assurance Contract Expiration Date	12/31/2019
Validated By	William M. Ranieri, PE ✓ Validation Checklist - Hardcopy Received
Certificate of Independence	FL1999_R6_COI_CERTIFICATION OF INDEPENDENCE - William M Ranieri.pdf

Referenced Standard and Year (of Standard)

Standard	Year
TPI 1	2014

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option C
Date Submitted	09/07/2017
Date Validated	09/19/2017
Date Pending FBC Approval	
Date Approved	09/21/2017

Summary of Products

FL #	Model, Number or Name	Description
1999.1	ITW BCG/Alpine Higher Strength (H & S)	Metal Connector Plate
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** per TPI 1		**Installation Instructions** FL1999_R6_II_Installation Instructions.pdf Verified By: Stuart Lewis PE 45927 Created by Independent Third Party: No **Evaluation Reports** FL1999_R6_AE_ESR-1118.pdf
1999.2	ITW BCG/Alpine Hinge Plate	Metal Connector Plate
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** Per TPI 1		**Installation Instructions** FL1999_R6_II_Installation Instructions.pdf Verified By: Stuart Lewis PE 45927 Created by Independent Third Party: No **Evaluation Reports** FL1999_R6_AE_ESR-1118.pdf
1999.3	ITW BCG/Alpine Trulox	Metal Connector Plate
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** per TPI 1		**Installation Instructions** FL1999_R6_II_Installation Instructions.pdf Verified By: Stuart Lewis PE 45927 Created by Independent Third Party: No **Evaluation Reports** FL1999_R6_AE_ESR-1118.pdf
1999.4	ITW BCG/Alpine Wave	Metal Connector Plate
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** Per TPI 1		**Installation Instructions** FL1999_R6_II_Installation Instructions.pdf Verified By: Stuart Lewis PE 45927 Created by Independent Third Party: No **Evaluation Reports** FL1999_R6_AE_ESR-1118.pdf

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INSTALLATION INFORMATION FOR TRUSS PLATES

Installation instructions for these truss plate products are fully described by provisions of the Florida Building Code, including reference to the TPI 1 standard, and design drawings prescribed by those documents. The Florida Building Code and the TPI 1 standard require a truss design drawing specifying relevant parameters for the trusses in which these truss plate products are permitted to be used, including details on the truss plates (size, positioning, embedment, an d limitations thereon). All uses of these truss plate products require such a truss design drawing, fabrication of the truss in accordance with the TPI 1 standard, and application of the truss within a structure in accordance with the Florida Building Code. Trusses are assembled using these truss plates pressed into the wood within the tolerances provided by TPI's Quality Criteria for Metal Plate Connected Wood Trusses, as shown in Section 3 of TPI 1.